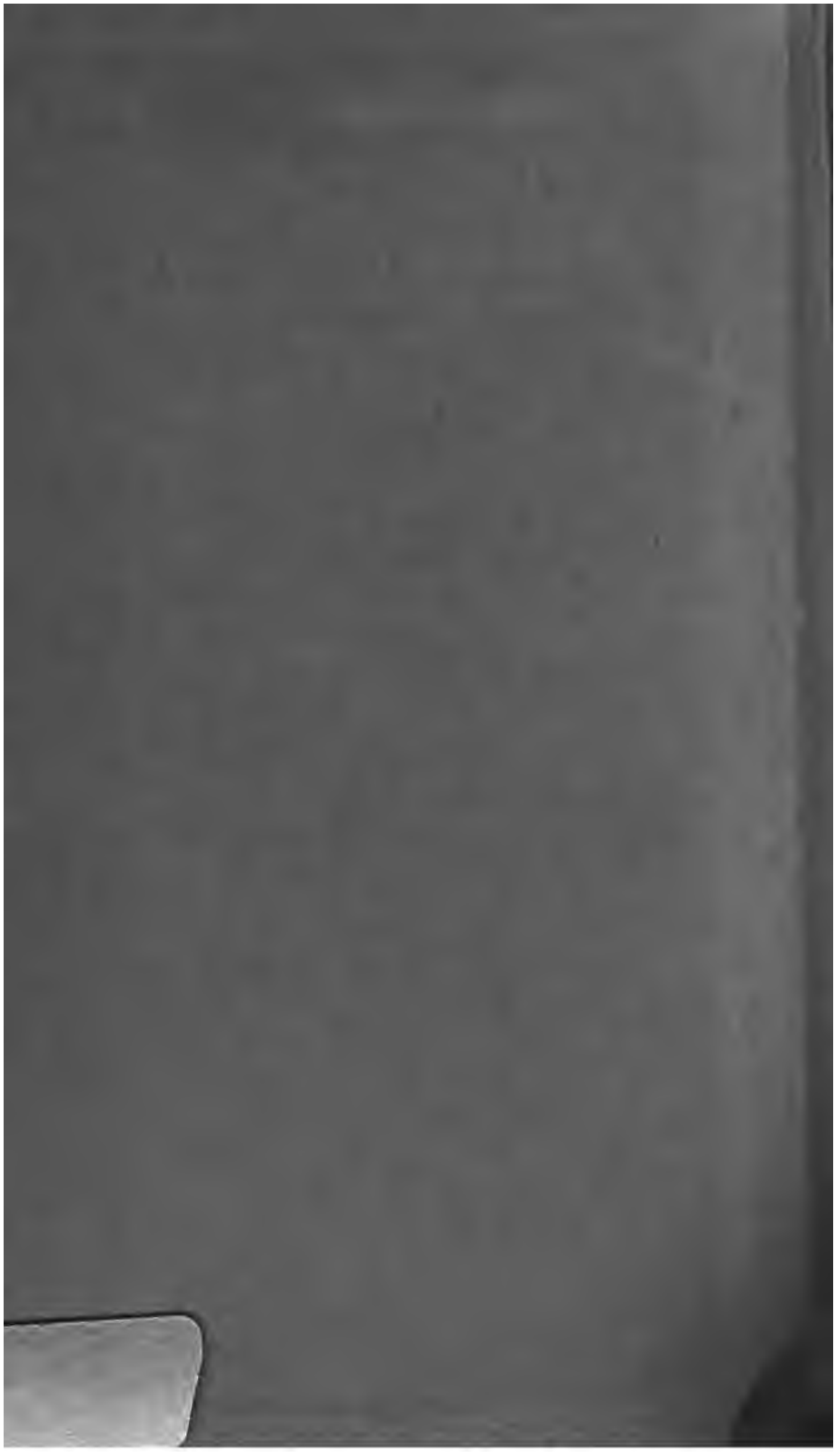


UNIVERSITY OF MISSOURI

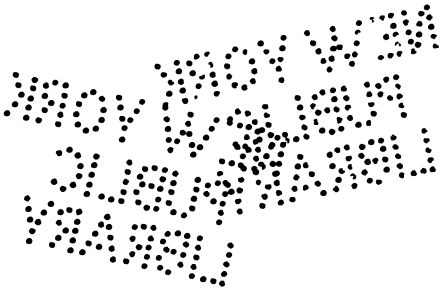
PRESIDENT'S ANNUAL REPORT

TO THE

BOARD OF CURATORS

1902-1903

Columbia, Missouri
PRESS OF E. W. STEPHENS
1903



To the Honorable,

The Board of Curators,

University of Missouri.

Gentlemen:—I have the honor of transmitting to you Reports for the session of 1902-1903 from the Deans of the Academic, Law, and Medical Departments, from the Director of the School of Mines, and from the Dean of the College of Agriculture and Mechanic Arts, which includes the Experiment Station and the Department of Engineering. Reports are included from the Chairman of the Committee on Graduate Work, the Director of the Summer Session, the Librarian, and the Proctor. The statistics, if carefully compiled, as I suppose them to be, should show the direction in which the University is moving.

In presenting to you this report at the close of the twelfth year of my service as President of the University, I desire to submit some statistics of a general nature pertaining to the whole University.

STUDENTS IN GYMNASIUM AT COLUMBIA.

Men	357
Women	137

YOUNG MEN AND YOUNG WOMEN.

	Men	Women
(*a*) *Columbia*:		
Regular Session	824	286
Summer Session	231	178
Totals	1055	464
Counted twice	97	40
Net totals	958	424
(*b*) *Rolla*	205	4
Total	1163	428

ENROLLMENT BY DEPARTMENTS:

Graduate Students		46
Academic		594
Law		111
Medical		92
Department of Education		141
College of Agriculture and Mechanic Arts		
	a. Agriculture..155	
	b. Engineering..229	384
School of Mines		209
Summer School at Columbia		409
Total		1986
Names counted twice		395
Total number of individual students		1591
Total number at Columbia		1382
Total number at Rolla		209

COUNTIES REPRESENTED IN THE UNIVERSITY.

(*a*) *Columbia*: Counties represented (including City of St. Louis)	105
Counties not represented	10
(*b*) *Rolla*: Counties represented (including City of St. Louis)	42
Counties not represented	73

STATES, TERRITORIES AND FOREIGN COUNTRIES REPRESENTED.

(*a*) *Columbia*:	48
(*b*) *Rolla*:	31
Total in whole University (none counted twice)	56

Very respectfully yours,

R. H. JESSE,

President.

I. THE GRADUATE DEPARTMENT.

REPORT OF COMMITTEE ON GRADUATE WORK.

To the President of the University of Missouri:

Sir:—We have the honor to submit the Third Annual Report of the Graduate Department.

The standard fixed last year for the work of graduate students in the Academic Department has been maintained during the present year and may now be claimed as the fixed policy of the University. Candidates for the Master's Degree in Arts and Science must hold a Bachelor's Degree from the University of Missouri or from some institution in which the requirements for the Academic Bachelor's Degree are equivalent to those of this University. Applications for the Master's Degree are considered on the basis of one year's resident graduate study. The candidate is required to take twelve (12) hours of work a week throughout the scholastic year. At least six (6) of these hours must be in work that is strictly graduate in character. The remaining six (6) hours can only be chosen from the purely graduate course or from those marked in the Catalogue: *For Graduates and Undergraduates.* The candidate must also submit a thesis evincing capacity for original research and power of independent thought. It is expected that graduate students will work mainly in one subject, and that, apart from this, they will elect only such related studies as may be approved by the head professor of the student's major subject.

By a recent vote of the University Council it was decided that each of the Departments of the University should have entire charge of its own graduate work. This vote would seem to relieve the present Committee from even the nominal supervision it has hitherto exercised over the graduate work in Law, Medicine, Engineering and Agriculture and the Mechanic Arts.

The Board of Curators, following a suggestion from this Committee, has passed the following order: "The University may print theses written by candidates for the Master's Degree if such theses are found worthy of publication." It may not be possible or desirable to print all of the Master's theses of any given year or even to print all of the Master's theses that are richly worth publication; but the Committee believes that the course of Graduate Education in this University will be much advanced, and that the reputation of the University abroad will be increased if we publish each year a selected number of very high grade theses written for this degree. We recommend that such papers be published under the title of "Masters' Theses of the University of Missouri."

During the past year another step in advance has, we believe, been taken by the University in doing away with the "teaching fellow." The salary attached to this position was small, the elementary classes placed in the hands of these teachers were frequently poorly instructed, the graduate students' own investigations were hindered by this teaching, and, under this system of appointment, fellows were sometimes chosen not with reference to the ability of the appointee to do graduate work, or of the department to offer such work. The number of fellows named depended on the number of elementary classes in the given subjects not otherwise provided with instructors.

The decision to abolish the office of "teaching fellow" was reached towards the close of the last Academic year. The depleted state of the University treasury at that time did not permit the election of a sufficient number of assistants to properly man for the present year those departments of the University that had been accustomed to depend on the teaching fellow as an officer of instruction. There was naturally little money for paying the stipends of fellows who were to do no teaching. As a consequence, while in 1900-'01 there were fourteen fellows in the University and in 1901-'02 there were twenty

(20), in the present years of 1902-03 there are but five (5). Because of this decrease in the number of fellows the number of graduate students in the University which was fifty (50) in 1900-01 and forty-nine (49) in 1901-02, is forty-six (46) in 1902-3. Had there been twenty (20) fellows in the University during the present year the number of graduate students would be larger now than it has ever been in the past. This falling off in the number of fellows in large part explains why the graduate students of 1901-'02 represented twenty (20) institutions of learning, while the graduate students of 1902-'03 represent but eleven (11) (cf. Table III).

With the passing of the "teaching fellow" the undergraduate student assistant has, during the present year, come in force. Fifteen such assistants have been employed during 1902-03. This Committee considers that the employment of undergraduates as assistants is a bad policy. They do no teaching, but, in comparison with graduate students they must, in general, be lacking in scholarly acquirements and in maturity of judgment. In point of time and of attainment they are too close to the students whose work they in some measure supervise. The Committee also thinks that the possibility of obtaining such undergraduate positions tends to encourage specialization too early in the students' scholastic career. It furthermore believes that graduate students can be secured for all such positions, if diligence is exercised in seeking them out. The Committee recommends, therefore, that the position of undergraduate student assistant be abolished.

The last General Assembly appropriated $4,000 to be expended for scholarships and fellowships during the present biennial period. The Committee has already recommended, and the Board of Curators has practically adopted the principle that the $2,000 available from this fund for the next Academic year shall be divided into scholarships of $125, and fellowships of $200, per annum. It does not seem wise to adopt an iron clad

law concerning the division of this money; but the Committee would say that, as a rule, scholarships should be awarded to students in their first year of graduate work in the University and to such as are candidates for the Master's Degree, and that fellowships should be reserved for later years of graduate work, for students who have shown ability of a high order and are looking towards the Doctor's Degree.

TABLE I.

Number of Students Applying for Scholarships and Fellowships for the Year 1903-04 *with the Names of their Major Subjects.*

Agricultural Chemistry	1
Chemistry	2
Civil Engineering	1
Classical Archaeology and Hist. of Art	1
Economics	1
English	6
Germanic Languages	4
Greek	4
History	2
Latin	2
Mathematics	4
Mechanical Engineering	1
Philosophy	1
Physics	1
Physiology	1
Political Science and Public Law	1
Romance Languages	3
Sociology	1
Zoology	1
Undetermined	1
19	39

TABLE II.

States from which Applications for Scholarships, and Fellowships for the Year 1903-04 *have been Received with the Number Applying from each State.*

Arkansas	1
California	1
Colorado	1
Iowa	3
Kansas	1
Louisiana	1
Missouri	27
Nebraska	1
South Carolina	2
Virginia	1
10	39

The number of applications and the number of States represented by these are both large when it is considered that these positions have been established since the adjournment of the last General Assembly and that, as a consequence, their existence is not generally known.

For the year 1903-04 there have been thirty-nine (39) applications for these new scholarships and fellowships. The greater number of these are from students of superior ability and high character. The Committee could easily recommend for these positions a number of admirable candidates far in excess of the number which our funds will warrant electing.

In making its recommendations for scholarships and fellowships the Committee is guided by the principle that the applicants of the greatest promise should be chosen irrespective of the lines of work they may desire to follow. In other words it is not preordained that an appointee shall be attached to any given subject or department. The Committee believed that ap-

plications for scholarships and fellowships for any year should be on file with the Registrar of the University on or before March 15 of the previous year, and that the selected candidates should be recommended for election at the April meeting of the Board of Curators. Such a course of procedure will enable the successful candidate to avoid worry about plans for the following year, and will enable the University to secure much better candidates than will be available later in the season.

The Committee recommends that the successful candidates for scholarships and fellowships be required to file an acceptance with the Secretary of the Board of Curators within one month of the date of their election. This acceptance should contain a promise that the student will serve for the entire year for which the election is made and will return to the University all money received on account of the scholarship or fellowship in case this promise is not kept. The need of such an agreement is seen when we note that of the five (5) fellows appointed for the year 1902-'03, one resigned in November and another in January. It is but reasonable that the University should demand of its beneficiaries the fulfillment of a contract.

In the opinion of the Committee the establishment of these scholarships and fellowships marks an epoch in the history of the Graduate Department of this University.

Up to the present time but little encouragement has been offered for students to remain for graduate work in the University after securing the Master's Degree. It has been rightly felt that our libraries and laboratories were not sufficiently equipped for the best advanced work, and that the teaching force was not sufficiently large to justify the offering of a large number of advanced courses. The libraries and laboratories still need building up, the teaching force in some departments is altogether inadequate. Neither the best graduate nor the best undergraduate work can be done under existing conditions. It is of the highest importance that our facil-

ities both for instruction and for research be greatly enlarged. Nevertheless the Committee recognizes the progress which has been made in the past few years and believes that the stage in the advancement of the University has been reached, in some departments, at least, where it is wise to permit, if not to encourage, students to remain and work for the Doctorate. The Committee hope in the near future to see the Doctor's Degree conferred for meritorious work done in residence in the University.

The only honorary degree now conferred in the University is that of Doctor of Laws. At the Sixtieth Commencement, June 4, 1902, this degree was conferred on the following persons: Hon. Ethan Allen Hitchcock, Secretary of the Interior; Hon. James Wilson, Secretary of Agriculture; Mr. Beverly Thomas Galloway, Chief of Bureau of Plant Industry, Department of Agriculture; Mr. Robert Somers Brookings, Merchant Philanthropist; Mr. Samuel Langhorne Clemens (Mark Twain).

The occasion was notable not only because of the distinguished character and attainments of the recipients of the degree, but because it marked a change of University policy in these two particulars: 1st. Hereafter no honorary degree is to be conferred unless the candidate is present at the Commencement Exercises to receive this honor. 2d. With reference to the giving of honorary degrees the Curators have adopted the following rules:

"To the giving of honorary degrees the following procedure shall be required:

1st. The announcing to the Council of the University of the name and honor.

2d. Reference by the Council to the Committee on Graduate Degrees.

3d. Action by the Council on the report of the said Committee.

4th. Forwarding the report to the Board of Curators.

No honorary degree will be considered or granted after the

April meeting of the Board up to the Commencement of the same year."

The Committee is of the opinion that no graduate degree should be conferred in the absence of the candidate.

During the past year the first volume of "University of Missouri Studies" has been completed with the following table of contents.

NUMBER 1.

Contributions to a Psychological Theory of Music, by Max Meyer, Ph. D., Professor of Experimental Psychology.

NUMBER 2.

Origin of the Covenant Vivien, by Raymond Weeks, Ph. D., Professor of Romance Languages.

NUMBER 3.

The Evolution of the Northern Part of the Lowlands of Southeastern Missouri, by C. F. Marbut, A. M., Professor of Geology.

NUMBER 4.

Eileithyia, by Paul V. C. Baur, Ph. D., Acting Professor of Classical Archaeology.

NUMBER 5.

The Right of Sanctuary in England, by Norman Maclaren Trenholme, Ph. D., Assistant Professor of History.

The first number of Volume II. has already appeared.

Ithaca or Leucas? by William Gwathmey Manly, A. M., Professor of Greek Language and Literature. Other numbers of Vol. II. are promised and will appear in due season.

In addition to the usual tables containing information concerning the Graduate Department we present for the first time in such a report a brief record of the students who received the Master's Degree last Commencement. We feel that the Department should in some measure be judged by the character and attainments of those who hold our graduate degrees.

Record of the students on whom the Master's Degree was conferred at the Commencement exercises of 1902:

AMANDA FREDERICKA BECKER,

B. S., M. S. U., '01; A. M., M. S. U., '02.

Subject: Mathematics.

Thesis: *On the rotation on a rigid body about a fixed point.*

In 1902-'03 has a graduate scholarship in Mathematics in Bryn Mawr College. For 1903-'04 has been awarded the President Cary Thomas fellowship in Mathematics in the same college.

WILLIAM WILSON ELWANG,

A. B., S. W., Presb. Univ. '88; A. M., M. S. U., '02,

Subject; Sociology.

Thesis: *The negroes of Columbia, Mo.*

Is pastor of the First Presbyterian Church of Columbia, and is continuing graduate work in Sociology in the University.

HELENE MARGARET EVERS,

A. B., Washington University, '99; A. M., M. S. U., '02.

Subject; Romance Languages.

Thesis: *Index de Les Epopees Fancaise de Leon Gautier.*

In 1902-'3 fellow in Romance Languages in the University. For 1903-'04 fellow in Romance Languages in Bryn Mawr.

TRUEMAN LEIGH HAMLIN.

A. B., Western Reserve College, '99; A. M., M. S. U., '02.

Subject: Mathematics.

Thesis: *Convergence of an Infinite Series.*

In 1902-'03 Supt. of Jackson Military Academy, Jackson, Mo.

FANNIE BELLE HATCHER,

A. B., M. S. U., '01; A. M., M. S. U., '02.

Subject: Mathematics.

Thesis: *On the Motion of a Sphere on a Rough Horizontal Plane.*

In 1902-'03, has a scholarship in Mathematics in Radcliffe College.

WILLIAM FREDERICK HAUHART,

A. B., M. S. U., '01; A. M., M. S. U., '02.

Subject: German.

Thesis: *In Weifem Lessing in Seiner Wortschatz vom moderren neuhochdeutschon Spachgebranch abweicht.*

In 1902-'03, has a fellowship in German in the University of Wisconsin. For 1903-'04, has a fellowship in German in Columbia College, New York City.

HOMER ALLEN HILL,

A. B., Park College, '97; A. M., M. S. U., '02.

Subject: Zoology.

Thesis: *The anatomy of Ascidia viridis, n. sp.*

In 1902-'03, is a graduate student in the University of Chicago.

LOUIS INGOLD,

A. B., M. S. U., '01; A. M., M. S. U., '02.

Subject: Mathematics.

Thesis: *Geometry of Four Dimensions.*

In 1902-'03, is Acting Asst. Professor of Mathematics in the University.

CHARLES OSCAR JENKINS,

A. B., M. S. U., '01; A. M., M. S. U., '02.

Subject: Greek.

Thesis: *Presentation and stage-setting of Greek Tragedy in the Fifth Century, B. C.*

In 1902-'03, is a high school principal in Missouri.

ELIDA CAROLINE KIRCHNER,

A. B., Washington Univ., '99; A. M., M. S. U., '02.

Subject: German.

Thesis: *Pseudo-Classicismus in der Deutchen Litteratur.*

In 1902-'03, is a teacher of German in the St. Louis High School.

GRACE EUGENIE MACMILLAN,

A. B., University of Nebraska, '99; A. M., M. S. U., 1902.

Subject: Latin.

Thesis: *The infinitive as used by Vergil in the Aeneid.*

In 1902-'03, is teaching Latin in Norfolk (Nebraska) High School.

LULU EDITH NICHOLS,

A. B,. Drury College; A. M., M. S. U., '02.

Subject: Greek.

Thesis: *Euripides as a poet of Nature.*

In 1902-'03, is teaching in Springfield, Mo.

ARTHUR BERNHARDT KNIPMEYER,

LL. B., Washington and Lee University, LL. M., M. S. U., '02.

Subject: Law.
Thesis: *Receivers' Certificates.*
In 1902-'03, is practicing law in Missouri.

GEORGE HERBERT MOORE,

LL. B., M. S. U., '01; LL. M., M. S. U., '02.
Subject: Law.
Thesis: *The jurisdiction of Equity to Annul Marriage.*
In 1902-'03, is practicing law in St. Louis.

TABLE III.

Number of fellows in different University studies. Fields of study of Graduate Students. Degrees Conferred in 1902, *candidates for degrees in* 1903 *with subjects and departments in which these degrees were and are to be taken.*

Study.	Number of Fellows...	Making Specialty of	Taking Courses in.	Degrees 1902. ...	Candidates 1903.....
Agriculture		1	1		
Anatomy	1	2			2
Botany		1	2		1
Chemistry			3		
Civil Engineering		1			
Classical Archael. and History of Art			4		
Education			3		
Electrical Engineering		4	1		3
Elocution			2		
English	1	3	1		
Free Hand Drawing			2		
Germanic Languages		2	3	2	
Greek		2	2	2	1
History	1	1	2	1	1
Horticulture		1			1
Latin		1	2	1	1
Law		3		2	1
Mathematics		3	1	4	1
Mechanical Engineering		3			1
Philosophy		2	4		
Physics	1	1	2		
Physiology			1		
Political Science and Public Law		1			
Romance Languages	1	3	4	1	1
Sociology		1		1	
Zoology		1		1	
	5	37	40	15	14

Of the five fellows ennumerated in Table III. the fellow in English resigned in November, the fellow in Physics resigned January 1. In each case the student went to a permanent position. Thirty-seven (37) of the forty-six (46) graduate students are devoting themselves to special study in some one subject and the range of subjects is very wide. In spite of the great falling off in the number of fellows as compared with last

year and of the smaller number of graduate students it is worthy of note that there are now fourteen (14) candidates for graduate degrees as compared with fifteen (15) recipients of such degrees last June, and here again there is a considerable variety in subjects.

TABLE IV.

Number of graduate students who hold degrees from different colleges and universities.

Institutions.	Students.	
	1901–2	1902–3
Adrian College, Michigan	1	
Central College, Missouri	1	
Central Wesleyan College, Missouri	1	
Harvard University, Massachusetts	1	2
Haverford College, Pennsylvania	1	
Hiram College, Ohio	1	
Illinois Wesleyan College	1	
Indiana, University of		1
Kansas, University of	1	1
Leland Stanford, Jr., University of California		1
Michigan Agricultural College		1
Michigan, University of	1	
Missouri Valley College, Missouri		1
Missouri, University of	31	38
Nebraska, University of	2	
Ohio, University of	1	2
Park College, Missouri	1	
Princeton University, New Jersey	1	
Southwestern Presbyterian University	1	1
Washington and Lee University, Virginia	1	
Washington University, Missouri	2	2
Wellesley College, Mass.		1
Western Reserve University, Ohio	1	
William Jewell College, Missouri	1	
Wisconsin, University of	1	
	52	51

Number of institutions, 1901–2, 20.
" " 1902–3, 11.

The number of institutions represented by the graduate students this year shows a great falling off as compared with last year. It should, however, be said that of the twenty (20) fellows of the year 1901-'02, eight (8) were from a "foreign" university.

TABLE V.

Number of different degrees held.

	1901-2	1902-3
A. M.	8	6
M. S.		1
A. B.	23	25
B. S.	3	4
B. L.	7	2
Ph. B.	6	2
B. S. in Agriculture	1	1
Agr. B.	1	
B. S. in Civil Engineering	3	1
B. S. in Electrical Engineering	4	4
B. S. in Mechanical Engineering		3
LL. B.	2	3
M. D.	2	
P. B.	2	
	62	52
Counted twice	13	6
Total number of students holding degrees.	49	46

In Table V, if the number of A. B., B. L. and Ph. B. degrees in the two columns be compared, the inference would seem to be warranted that the two latter degrees are not so generally given now as formerly.

TABLE VI.

Number of Students in the Graduate Department in the Years 1900-'01, 1901-'02 *and* 1902-'03.*

	1900–1	1901–2	1902–3
Women	20	16	14
Men	30	33	32
Total number of Students	50	49	46
Degrees granted	12	15	14
Number of Fellows	14	20	5
First Year Students	.....	36	29
Second Year Students	....	6	11
Third Year Students	.....	3	2
Fourth Year Students	.....	3	2
Fifth Year Students	.....	1	2
In Absentia†	....	5	8
From other States and Counties	....	12	14
Graduate Students not before members of the University	.....	14	6
Graduate Students never before enrolled in the Graduate Department	....	36	27
Average age at time of entrance, of Graduate Students	.....	28	27
Average age at time of conferring of Degrees of Candidates for Degrees	.....	27	28

* Candidates for June, 1903.
† Candidates for C. E., E. E., and M. E.

In 1900-'01 in the first report of the Graduate Department, attention was called to the fact that up to that time from year to year in this University the number of women in the graduate work had increased more rapidly than the number of men. Table VI. shows that since 1900-'01 the number of women in the Graduate Department has steadily decreased, and the number of men has during the same time increased. The number of second-year students in graduate work is noticeably larger this year than it was last. As a rule the students who are this year in their third, fourth and fifth years in this department are persons who are also engaged in some calling that prevents the student from devoting full time to University study.

The average age of our graduate students remains abnormally high.

TABLE VII.

Number of Students who are Doing Special Work in Certain Subjects or Groups of Related Subjects.

Subjects and Groups of Subjects.	1901–2	1902–3
Applied Science	8	10
Modern Languages	7	8
History and Political Sciences	7	3
Classics	6	3
Pure Science	5	5
Mathematics	5	3
Philosophy	2	2
Law	2	3
Medicine	2	....
	44	37
Uuclassified	5	9
	49	46

Respectfully submitted,

JOHN PICKARD,

FRANK THILLY,

RAYMOND WEEKS,

H. B. ALMSTEDT,

Committee on Graduate Work.

II. THE ACADEMIC DEPARTMENT.

REPORT OF THE DEAN.

To the President of the University of Missouri.

Sir:—I have the honor herewith to submit my third annual report as Dean of the Academic Department.

CHANGES IN THE FACULTY.

Since my last report the following changes in the Faculty have been made:

In the spring of 1902, Mr. Isidor Loeb, Professor of History, was transferred to the Chair of Administration and Public Law. To fill the vacancy in History thus occasioned, Norman MacLaren Trenholme, Ph. D., was chosen Assistant Professor (in charge) of History. Mr. W. S. Drewry, Instructor in History, was granted leave of absence without salary for one year. Jonas Viles, Ph. D., was appointed Instructor in History. Mr. L. M. Defoe, Assistant Professor of Mathematics, was transferred to the Engineering Department, his term of service to begin in the fall of 1904. Mr. Richmond Laurin Hawkins, Instructor in Romance Languages, resigned and in his place Miss Grace Williams was appointed.

On account of the abolition of teaching fellowships it became necessary to increase the teaching force in certain lines of work. Accordingly the following appointments were made in the spring and summer of 1902: Caroline T. Stewart, Ph. D., Instructor in Germanic Languages; Herman Schlundt, Ph. D., Instructor in Chemistry; William L. Westermann, Ph. D., Instructor in Greek, to give a portion of his time to Latin; Arthur Byron Coble, Ph. D., Instructor in Mathematics.

The term of Mr. Chas. Thom, as Assistant Professor of Botany, having expired, Benjamin Minge Duggar, Ph. D., was chosen Professor of Botany.

Mr. John Pickard, Professor of Archaeology, and Mr. Sidney Calvert, Assistant Professor of Chemistry, who had been granted leaves of absence for the season of 1901-1902, to prosecute their studies in Europe, resumed their duties at the beginning of the present session.

During the present session Mr. Benjamin Franklin Hoffman, Professor of Germanic Languages, Mr. Luther Marion Defoe, Assistant Professor of Mathematics, and Mr. Henry Caples Penn, Assistant Professor of English, have been in Europe on furlough. Glenn Levin Swiggett, Ph. D., has been Acting Professor of Germanic Languages, Louis Ingold, A. M., has been Acting Assistant Professor of Mathematics, and Harry V. S. Jones, A. B., Acting Assistant Professor of English.

NEW POSITIONS.

The increase in the enrollment and the demand for a greater number of courses in certain lines of work has made it necessary to increase the corps of instructors in History, English, Philosophy and in some of the laboratories. Assistants in Chemistry Geology, History, Mathematics, Psychology, Physics, Zoology, and instructors in English and in Philosophy will be appointed before the beginning of the next session.

THE STUDENTS.

ENROLLMENT.

Five hundred and fifty-five students have been enrolled in the Academic Department during the present session, as follows:

Freshmen	176
Sophomores	126
Juniors	95
Seniors	74
Specials	84
Total	555

TABLE I.

The following table shows the number of women and men in each class and also the number of women and men among the special students:

	Women.	Men.	Total.
Freshmen	69	107	176
Sophomores	43	83	126
Juniors	37	58	95
Seniors	20	54	74
Specials	66	18	84

STUDENTS ADMITTED IN THE SEESION OF 1902-'03.

Two hundred (200) students have been admitted in this session to the various classes of this Department. Eighty-four special students have also been enrolled, making a total of two hundred and eighty-four. Of this number, two hundred and sixty-four were admitted to the Freshman Class, fourteen to the Sophomore Class, five to the Junior Class and one to the Senior Class.

A. Admitted on Certificate from Approved Schools.

One hundred and thirty-four (134) students were admitted on Certificate from forty-nine Approved Schools. The table given below shows the Approved Schools represented by one or more students in the present session and the number from each:

TABLE II.

NAME OF SCHOOL.	NO.
Blees Military Academy	1
Bloomfield High School	1
Boonville High School	1
Brookfield High School	2
Buchanan College	1
Carrollton High School	1
Carthage High School	5
Christian College	4
Clinton High School	1
Columbia High School	23
Columbia Normal Academy	3
Everton Academy	1
Hamilton High School	2
Hannibal High School	1
Hardin College	1
Harrisonville High School	1
Independence High School	4
Jefferson City High School	1
Joplin High School	4
Kansas City High School	11
Kansas City Manual Training School	1
Kidder Institute	2
Lamar High School	1
Lancaster High School	1
Lexington High School	1
Louisiana High School	1
Maryville High School	3
Mexico High School	1
Miami High School	1
Moberly High School	2
Monroe City High School	2

NAME OF SCHOOL.	NO.
Norborne High School	1
Paris High School	3
Poplar Bluff High School	2
Rich Hill High School	1
St. Joseph High School	2
Sedalia High School	9
St. Louis High School	3
Shelbina High School	2
Springfield High School	1
Tipton High School	2
Trenton High School	2
University Academy	1
Vandalia High School	3
Westport High School	1
Windsor High School	1

B. Admitted by Examination.

Fifty students have been admitted in this session by examination. Of this number forty-seven are Freshmen, two (2) are Sophomores, and one (1) a Junior.

The following table shows the various academies, high schools and colleges within the State from which one or more students have been admitted by examination during the present session, and the number from each:

TABLE III.

NAME OF SCHOOL.	NO.
Ash Grove High School	1
Bevier High School	1
Arrow Rock High School	1
Blees Military Academy	1
Bolivar High School	1

NAME OF SCHOOL.	NO.
Brunswick High School	1
Buchanan College	1
Christian College	1
Cottey College	1
Columbia High School	2
Central Wesleyan College	2
Chillicothe High School	1
Central Female College	1
Columbia Normal Academy	7
Dadeville Academy	1
Drexel High School	1
Caruthersville High School	1
Elsberry High School	1
Grand River College	2
Hamilton High School	1
Houston High School	1
Hannibal High School	1
Kirksville Normal School	2
Kirkwood Military Academy	1
Laddonia High School	1
Lagrange College	1
La Plata High School	3
Macon High School	1
Maryville Seminary	1
Montrose High School	1
Park College	1
Sedalia High School	1
Southern Illinois Normal University	1
St. Louis High School	1
Warrensburg Normal School	1
Woodson Institute	1
Vandalia High School	1

The following table shows the colleges, academies, high schools, etc., outside of Missouri that are represented by one or more students among those admitted during the present session:

TABLE IV.

NAME OF SCHOOL.	NO.
Aspen (Colo.), High School.....	1
Asheville (N. C.) High School.....	1
Blue Mound (Ill.), High School....	1
Burlington (Iowa), High School....	1
Evanston (Ill.), High School.....	1
Fairmount College (Kan.).....	1
Foesani Gymnasium (Roumania)...	1
Hot Springs (Ark.), High School..	1
Pasedena (Cal.), High School.....	1
San Jose (Cal.), Normal School....	1
St. James High School (Chicago)..	1
Sommerset (Ky.), High School....	1
Western College (Ohio).....	1
Washington (D. C.), High School..	1
Winchester (Tenn.), Normal.....	1

Two were admitted from the Kirksville Normal School, eleven from the Warrensburg Normal School, one from the Cape Girardeau Normal School.

CURATOR'S SCHOLARSHIPS.

By order of the Board of Curators, the student who attains the highest rank in the graduating class of any Approved School will be permitted to enter the Academic Department without the payment of the first year's entrance, library and incidental fee.

The following students were admitted during the session of 1902-1903 under this provision:

William Salem Brown.....Buchanan College
Ruth O. Covington.....Bloomfield High School
C. P. Dickinson.....Clinton High School
William Franken.....Norborne High School
Thomas Glasscock.....Tipton High School
Nellie M. Gordon.....Columbia High School
Horace Johnson.....Brookfield High School
Ethel C. Moore.....Trenton High School
Pearl Shelton.....Windsor High School
Mabel Squire.....Joplin High School
R. E. Taylor.....Miami High School

ELECTIONS OF THE VARIOUS CLASSES.

The tables that are given below exhibit the elections of the various classes during the present session. First the elections of each class are shown. Then a combination table is given showing the number of courses elected in each subject and the number of individuals electing courses in each subject.

Table V.

Showing Elections of the Freshman Class by Subjects and also the Number of Individuals Electing Each Subject.

Academic Subjects.	Men.	Women.	Individuals.	Total Courses.
Administration and Public Law	2	0	2	2
Anatomy	7	0	7	9
Archaeology	3	12	15	17
Astronomy	3	1	4	4
Botany	4	3	7	7
Chemistry	18	2	20	20
Economics	5	0	5	5
Elocution	56	30	86	86
English	95	57	152	176
Experimental Psychology	10	0	10	10
German	50	33	83	85
Greek	22	6	28	36
Geology	12	1	13	13
History	69	35	104	105
Latin	39	30	69	79
Mathematics	53	12	65	70
Philosophy	9	1	10	10
Physics	16	2	18	18
Physiology	5	0	5	5
Romance Languages	28	31	59	62
Pedagogy	4	1	5	5
Sociology	13	2	15	16
Zoology	10	2	12	12
Non-Academic Subjects.				
Agriculture	3	0	3	3
Drawing	4	10	14	14
Horticulture	1	0	1	1
Household Economics	0	7	7	7
Shop	1	3	4	4
Stenography	2	7	9	9
Surveying	1	0	1	1

TABLE VI.

Showing the Elections of the Sophomore Class by Subjects and also the Number of Individuals Electing Each Subject.

Academic Subjects.	Men.	Women	Individuals.	Total Courses
Administration and Public Law	2	1	3	3
Anatomy	5	2	7	9
Archaeology	6	11	17	19
Astronomy	6	0	6	6
Botany	4	0	4	4
Chemistry	16	2	18	20
Economics	9	0	9	10
Elocution	30	12	42	42
English	51	30	81	98
Experimental Psychology	7	2	9	9
German	27	20	47	48
Geology	1	1	2	2
Greek	12	6	18	19
History	42	12	54	59
Latin	21	17	38	53
Mathematics	23	7	30	36
Philosophy	12	1	13	15
Physics	10	6	16	16
Physiology	1	2	3	3
Romance Languages	22	17	39	50
Pedagogy	7	8	15	15
Sociology	30	8	38	40
Zoology	8	5	13	15
Non-Academic Subjects.				
Agriculture	1	0	1	1
Drawing	5	7	12	15
Household Economics	0	6	6	6
Horticulture	1	0	1	1
Shop	0	1	1	1
Stenography	0	1	1	1
Surveying	1	0	1	1

TABLE VII.

Showing the Elections of the Junior Class by Subjects and also the Number of Individuals Electing Each Subject.

Academic Subjects.	Men	Women	Individuals	Total Courses
Administration and Public Law	15	0	15	16
Archaeology	4	9	13	15
Astronomy	0	2	2	2
Botany	1	1	2	2
Chemistry	13	1	14	18
Economics	16	1	17	21
Elocution	20	11	31	31
English	31	25	56	68
Experimental Psychology	13	12	25	25
German	19	14	33	35
Geology	6	1	7	8
Greek	5	8	13	15
History	22	7	29	32
Latin	7	16	23	29
Mathematics	9	1	10	15
Philosophy	20	8	28	30
Physics	6	3	9	10
Physiology	2	0	2	4
Romance Languages	18	22	40	46
Pedagogy	19	19	38	40
Sociology	11	7	18	21
Zoology	8	1	9	11
Non-Academic Subjects.				
Agriculture	4	0	4	4
Drawing	3	8	11	12
Horticulture	1	1	2	2
Household Economics	0	4	4	4
Shop	1	0	1	1
Surveying	1	0	1	1

TABLE VIII.

Showing the Election of the Senior Class by Subjects and also the Number of Individuals Electing Each Subject.

Academic Subjects.	Men	Women	Individuals	Total Courses
Administration and Public Law	9	0	9	12
Anatomy	7	0	7	15
Archaeology	6	9	15	20
Astronomy	4	0	4	4
Botany	0	1	1	1
Chemistry	7	0	7	11
Economics	10	0	10	11
Elocution	21	6	27	27
English	23	14	37	48
Experimental Psychology	16	15	31	35
German	12	5	17	22
Geology	3	0	3	3
Greek	9	4	13	19
History	14	6	20	24
Latin	8	7	15	20
Mathematics	5	3	8	9
Philosophy	15	3	18	23
Physics	3	2	5	5
Physiology	1	0	1	2
Romance Languages	16	7	23	21
Pedagogy	18	18	36	42
Sociology	16	3	19	28
Zoology	7	2	9	10
Non-Academic Subjects.				
Agriculture	1	0	1	1
Drawing	3	2	5	5
Horticulture	1	2	3	3
Household Economics	0	1	1	1
Shop	0	2	2	2
Stenography	0	1	1	1
Surveying	1	0	1	1
Bacteriology	1	0	1	1
Law	2	0	2	2

TABLE IX.

Showing Elections of Special Students by Subjects and also the Number of Individuals Electing Each Subject:

Academic Subjects.	Men	Women	Individuals.	Total Courses
Administration and Public Law	1	0	1	1
Anatomy	1	0	1	1
Archaeology	0	27	27	34
Astronomy	1	0	1	1
Botany	0	1	1	1
Economics	2	0	2	2
Elocution	4	5	9	9
English	8	19	27	43
Experimental Psychology	3	2	5	5
German	2	16	18	21
Geology	1	2	3	3
Greek	0	2	2	5
History	5	11	16	20
Latin	1	3	4	7
Mathematics	4	2	6	7
Philosophy	5	3	8	11
Physics	2	2	4	4
Physiology				
Romance Languages	2	21	23	25
Pedagogy	2	0	2	2
Sociology	3	3	6	7
Zoology	1	2	3	3
Non-Academic Subjects.				
Agriculture	0	1	1	1
Drawing	2	11	13	18
Horticulture	0	1	1	2
Household Economics	0	1	1	1
Shop	1	3	4	5
Stenography	0	2	2	2
Law	1	0	1	1

TABLE X.

A Summary of Previous Enrollment Tables.

Academic Subjects.	Total Men	Total Women.	Total Individuals.	Grand Total...
Administration and Public Law	29	1	30	34
Anatomy	20	2	22	34
Astronomy	14	3	17	17
Archaeology	19	68	87	105
Botany	9	6	15	15
Chemistry	54	5	59	69
Economics	42	1	43	49
Elocution	131	64	195	195
English	208	145	353	433
Experimental Psychology	49	31	80	84
German	110	88	198	211
Geology	23	5	28	29
Greek	48	26	74	94
History	152	71	223	240
Latin	76	73	149	188
Mathematics	94	25	119	137
Philosophy	61	16	77	89
Physics	37	15	52	53
Physiology	13	3	16	19
Romance Languages	86	98	184	214
Pedagogy	50	46	96	104
Sociology	73	23	96	112
Zoology	34	12	46	61
Non-Academic Subjects.				
Agriculture	9	1	10	10
Drawing	17	38	55	64
Horticulture	3	10	13	14
Household Economics	0	19	19	19
Shop	3	9	12	13
Stenography	2	11	13	13
Surveying	4	0	4	4
Bacteriology	1	0	1	1
Law	3	0	3	3

TABLE XI.

Showing the Number of Individuals Electing the Various Subjects Since the Beginning of the Elective System:

	1900–1	1901–2	1902–3
†Administration and Public Law	0	0	30
Anatomy	0	19	22
Astronomy	0	15	17
Archaeology	32	37	87
Botany	20	27	15
Chemistry	52	63	59
Economics	46	52	43
Elocution	120	169	195
English	313	340	353
Experimental Psychology	0	70	80
German	188	198	198
Geology	30	21	28
Greek	82	83	74
History	211	253	240
Latin	160	160	149
Mathematics	159	143	119
Philosophy	44	42	77
Physics	40	42	52
Physiology	3	3	16
Romance Languages	154	180	184
Pedagogy	66	107	96
Sociology	50	114	96
Zoology	38	45	46

† This chair was established in the summer of 1902. Previous to this date the courses were given under History.

SUPERVISION OF STUDENTS.

For some time there has been a feeling on the part of the President and many members of the Academic Faculty that some scheme should be devised whereby better supervision of the students of this Department might be secured. Last fall it was decided to inaugurate the plan in a small way by beginning with the Freshmen. Accordingly, early in September, the Dean assigned the members of the Freshman Class to the various head Professors. A letter containing the names of the students assigned was addressed to each head Professor with the request that he would confer with the students placed under his care, give them advice in regard to their studies, and aid them

in every way in which it might be possible. Some members of the Faculty co-operated very heartily with the Dean in this scheme of supervision and looked after the students entrusted to them with conscientious care. For lack of complete co-operation, the plan was not so successful as it might have been. It did, however, result in good as is shown by the smaller number of failures among the Freshmen at the mid-year examination. With the experience of one year to show what improvements in the plan may be made, I am quite sure that it will be far more successful next year.

I am convinced that the scheme should be continued and enlarged to include the Sophomore Class. Better supervision of our students is in my opinion, the most important question now before the Academic Faculty.

In this connection I may be permitted to mention another matter that is closely connected with supervision, and that is scarcely less important. I mean the prompt reporting to the Dean of students who are doing unsatisfactory work. This is very important since the Dean is expected to look after such students, and if they are persistent in the non-performance of their duties, to drop them from the Department. A definite date should be established at which reports on all students who are not doing satisfactory work should be filed with the Dean. In my judgment, such reports should be filed monthly, beginning October the first of each year.

FACULTY LEGISLATION.

The most important matter that has been before the Academic Faculty during the current session has been that of combined courses, by which a student may take an academic degree and also a professional degree in six years. Early in the fall committees were appointed to formulate such courses, in conjunction with committees from the various professional schools. These courses were prepared with much care and presented to

the Academic Faculty early in the spring They were all referred to a new committee, composed of members of the old committees with the view to harmonizing them. By this larger committee two reports were presented; one presenting the courses as prepared by the original committees in which most of the work was prescribed; the other calling attention to the fact that under the elective system it was possible without any additional legislation for the student to take an academic degree and also a degree in Law, in Agriculture or in Medicine in six years and recommending that the Faculty allow such additional work in Engineering to count towards an academic degree as would make it possible for a student to take an academic degree and also a degree in Engineering in six years. The Faculty adopted this report and it is now possible for a student to take an academic degree and any professional degree in six years.

The work in Freehand drawing, with the exception of the courses for teachers, will hereafter be permitted to count towards an academic degree to the amount of twenty-four hours.

Some important changes have been made in regard to the work in Elocution. Hereafter courses in this subject will not be open to Freshmen. The credit for work done in this subject has been arranged as follows: for the elementary course, coming three hours a week, credit of three hours for the session, or of an hour and a half for the semester, will hereafter be given. For the advanced course, coming three hours a week, a credit of four hours for the session, or of two hours for a semester will be given.

In conclusion, permit me to express my high appreciation of the co-operation and support that I have received in the administration of the affairs of this Department from the President of the University and from my colleagues in the Academic Faculty.

Respectfully submitted,

J. C. JONES, Dean.

III. THE LAW DEPARTMENT.

REPORT OF THE DEAN.

To the President of the University of Missouri:

Sir: I beg to report that the number of students registered in this department for the present year is 111, distributed as follows:

First Class	53
Junior Class	37
Special Class	18
Graduate Class	3
Total	111

As was foreseen, the increased entrance requirements and the lengthening of the course have reduced the number of students in this department. The large graduating class of 1902 was the last of the two years' course in this school. The Junior class of this year, numbering only 37, was the first which in 1901 confronted the three year course of study. The fact that one year later there was a large increase in the number of students entering this Department furnishes a good ground for the belief that the increased requirements of academic qualifications and term of study will affect this Department only temporarily.

I had hoped that the last Legislature would have changed the present law as to the admission of attorneys by the Circuit Courts, and have placed the sole power to admit to the bar in this state in the hands of a board of examiners appointed by the Supreme Court. A bill to this effect has been twice introduced into the Legislature, with the endorsement of the bar associations of Kansas City, St. Louis and of the State, but has

each time suffered defeat in the House of Representatives. In the effort to have this legislation enacted this Department has done its full share and will continue to urge the reform upon the bar and the people of Missouri.

The library which for many years has been a constant reproach to the Department bids fair soon to become all that a good law school library should be. The appropriation for law books made by the Forty-first General Assembly, which became available last spring, and especially the library fee of $10.00 paid yearly by the students entering this Department, have resulted in adding to our shelves all the American State Reports, except those of one state, and also a large number of English Reports and American and English text books. The continuance of this fee insures a steady increase in necessary books, and supplemented by the appropriation of $5,000.00 by the last General Assembly, will very soon give us the best law library in any law school in the west, with the exception of the law school of the University of Chicago.

The death, in December last, of Judge Alexander Martin, Dean of this Department, removed from this Faculty its head for the last thirteen years, and caused the first break in its personnel since the resignation of Professor Tiedeman in 1891. The vacancy in the professorship occurring in the middle of the session it was thought wise to make no permanent appointment of a third professor until the end of the school year. His classes have been carried on by his two colleagues with two assistants, Messrs. Harvey D. Murry and Milton R. Conley, whose work has been entirely satisfactory to the Faculty. Judge Martin's professional and judicial life, as well as his life and labors in this School, are of record in the minutes of the Board of Curators, of the Council of the University and of the Faculty of Law in the resolutions spread upon the registers of those bodies and need not be repeated here. His death was a great loss to this Department, as well as a personal one to his col-

leagues, to whom he was not only a safe adviser but a close friend.

My appointment, on March 31st last, as Dean of this Department places upon me for the first time the duty of presenting this annual report. To assist me in this new work I have corresponded with a large number of the leading law schools—departments of Universities—to inform myself in regard to the nature of such reports in other institutions. From the replies to my inquiries I find that some of them, the law schools of the Universities of Minnesota, Wisconsin and Michigan, for example, publish no such reports. Others of those which have reached me, from Yale and Cornell, for example, are very brief, confining the report for the most part to the number of students enrolled, changes in courses of study and in the members of the faculty of the department. The report of the Dean of the Harvard Law School is the briefest of all, confining itself simply to a table of the number of students entering the department in the past thirty years, with percentages of graduates and non-graduates for those years, and the courses of study. The report of the Dean of the School of Law of Columbia University is, on the other hand, very elaborate and discusses questions as to methods of instruction and combination of academic and professional courses, which I am not prepared to take up at this time.

It is not fit that I should say anything here of what is to be done in the future. At the end of my first year of service as Dean, I trust I shall be able to report on much which has been accomplished toward the advancement of this Department of the University in influence and reputation.

Respectfully submitted,

JOHN D. LAWSON,

Dean of the Law Department of the University of Missouri.

May 1st, 1903.

TABLE VII.

Showing the Elections of the Junior Class by Subjects and also the Number of Individuals Electing Each Subject.

Academic Subjects.	Men	Women	Individuals	Total Courses
Administration and Public Law	15	0	15	16
Archaeology	4	9	13	15
Astronomy	0	2	2	2
Botany	1	1	2	2
Chemistry	13	1	14	18
Economics	16	1	17	21
Elocution	20	11	31	31
English	31	25	56	68
Experimental Psychology	13	12	25	25
German	19	14	33	35
Geology	6	1	7	8
Greek	5	8	13	15
History	22	7	29	32
Latin	7	16	23	29
Mathematics	9	1	10	15
Philosophy	20	8	28	30
Physics	6	3	9	10
Physiology	2	0	2	4
Romance Languages	18	22	40	46
Pedagogy	19	19	38	40
Sociology	11	7	18	21
Zoology	8	1	9	11
Non-Academic Subjects.				
Agriculture	4	0	4	4
Drawing	3	8	11	12
Horticulture	1	1	2	2
Household Economics	0	4	4	4
Shop	1	0	1	1
Surveying	1	0	1	1

TABLE VIII.

Showing the Election of the Senior Class by Subjects and also the Number of Individuals Electing Each Subject.

Academic Subjects.	Men	Women	Individuals	Total Courses
Administration and Public Law	9	0	9	12
Anatomy	7	0	7	15
Archaeology	6	9	15	20
Astronomy	4	0	4	4
Botany	0	1	1	1
Chemistry	7	0	7	11
Economics	10	0	10	11
Elocution	21	6	27	27
English	23	14	37	48
Experimental Psychology	16	15	31	35
German	12	5	17	22
Geology	3	0	3	3
Greek	9	4	13	19
History	14	6	20	24
Latin	8	7	15	20
Mathematics	5	3	8	9
Philosophy	15	3	18	23
Physics	3	2	5	5
Physiology	1	0	1	2
Romance Languages	16	7	23	21
Pedagogy	18	18	36	42
Sociology	16	3	19	28
Zoology	7	2	9	10
Non-Academic Subjects.				
Agriculture	1	0	1	1
Drawing	3	2	5	5
Horticulture	1	2	3	3
Household Economics	0	1	1	1
Shop	0	2	2	2
Stenography	0	1	1	1
Surveying	1	0	1	1
Bacteriology	1	0	1	1
Law	2	0	2	2

TABLE IX.

Showing Elections of Special Students by Subjects and also the Number of Individuals Electing Each Subject:

Academic Subjects.	Men	Women	Individuals.	Total Courses
Administration and Public Law	1	0	1	1
Anatomy	1	0	1	1
Archaeology	0	27	27	34
Astronomy	1	0	1	1
Botany	0	1	1	1
Economics	2	0	2	2
Elocution	4	5	9	9
English	8	19	27	43
Experimental Psychology	3	2	5	5
German	2	16	18	21
Geology	1	2	3	3
Greek	0	2	2	5
History	5	11	16	20
Latin	1	3	4	7
Mathematics	4	2	6	7
Philosophy	5	3	8	11
Physics	2	2	4	4
Physiology				
Romance Languages	2	21	23	25
Pedagogy	2	0	2	2
Sociology	3	3	6	7
Zoology	1	2	3	3
Non-Academic Subjects.				
Agriculture	0	1	1	1
Drawing	2	11	13	18
Horticulture	0	1	1	2
Household Economics	0	1	1	1
Shop	1	3	4	5
Stenography	0	2	2	2
Law	1	0	1	1

TABLE X.

A Summary of Previous Enrollment Tables.

Academic Subjects.	Total Men	Total Women.	Total Individuals.	Grand Total...
Administration and Public Law	29	1	30	34
Anatomy	20	2	22	34
Astronomy	14	3	17	17
Archaeology	19	68	87	105
Botany	9	6	15	15
Chemistry	54	5	59	69
Economics	42	1	43	49
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Physiology	13	3	16	19
Romance Languages	86	98	184	214
Pedagogy	50	46	96	104
Sociology	73	23	96	112
Zoology	34	12	46	61
Non-Academic Subjects.				
Agriculture	9	1	10	10
Drawing	17	38	55	64
Horticulture	3	10	13	14
Household Economics	0	19	19	19
Shop	3	9	12	13
Stenography	2	11	13	13
Surveying	4	0	4	4
Bacteriology	1	0	1	1
Law	3	0	3	3

TABLE XI.

Showing the Number of Individuals Electing the Various Subjects Since the Beginning of the Elective System:

	1900–1	1901–2	1902–3
†Administration and Public Law	0	0	30
Anatomy	0	19	22
Astronomy	0	15	17
Archaeology	32	37	87
Botany	20	27	15
Chemistry	52	63	59
Economics	46	52	43
Elocution	120	169	195
English	313	340	353
Experimental Psychology	0	70	80
German	188	198	198
Geology	30	21	28
Greek	82	83	74
History	211	253	240
Latin	160	160	149
Mathematics	159	143	119
Philosophy	44	42	77
Physics	40	42	52
Physiology	3	3	16
Romance Languages	154	180	184
Pedagogy	66	107	96
Sociology	50	114	96
Zoology	38	45	46

† This chair was established in the summer of 1902. Previous to this date the courses were given under History.

SUPERVISION OF STUDENTS.

For some time there has been a feeling on the part of the President and many members of the Academic Faculty that some scheme should be devised whereby better supervision of the students of this Department might be secured. Last fall it was decided to inaugurate the plan in a small way by beginning with the Freshmen. Accordingly, early in September, the Dean assigned the members of the Freshman Class to the various head Professors. A letter containing the names of the students assigned was addressed to each head Professor with the request that he would confer with the students placed under his care, give them advice in regard to their studies, and aid them

in every way in which it might be possible. Some members of the Faculty co-operated very heartily with the Dean in this scheme of supervision and looked after the students entrusted to them with conscientious care. For lack of complete co-operation, the plan was not so successful as it might have been. It did, however, result in good as is shown by the smaller number of failures among the Freshmen at the mid-year examination. With the experience of one year to show what improvements in the plan may be made, I am quite sure that it will be far more successful next year.

I am convinced that the scheme should be continued and enlarged to include the Sophomore Class. Better supervision of our students is in my opinion, the most important question now before the Academic Faculty.

In this connection I may be permitted to mention another matter that is closely connected with supervision, and that is scarcely less important. I mean the prompt reporting to the Dean of students who are doing unsatisfactory work. This is very important since the Dean is expected to look after such students, and if they are persistent in the non-performance of their duties, to drop them from the Department. A definite date should be established at which reports on all students who are not doing satisfactory work should be filed with the Dean. In my judgment, such reports should be filed monthly, beginning October the first of each year.

FACULTY LEGISLATION.

The most important matter that has been before the Academic Faculty during the current session has been that of combined courses, by which a student may take an academic degree and also a professional degree in six years. Early in the fall committees were appointed to formulate such courses, in conjunction with committees from the various professional schools. These courses were prepared with much care and presented to

the Academic Faculty early in the spring They were all referred to a new committee, composed of members of the old committees with the view to harmonizing them. By this larger committee two reports were presented; one presenting the courses as prepared by the original committees in which most of the work was prescribed; the other calling attention to the fact that under the elective system it was possible without any additional legislation for the student to take an academic degree and also a degree in Law, in Agriculture or in Medicine in six years and recommending that the Faculty allow such additional work in Engineering to count towards an academic degree as would make it possible for a student to take an academic degree and also a degree in Engineering in six years. The Faculty adopted this report and it is now possible for a student to take an academic degree and any professional degree in six years.

The work in Freehand drawing, with the exception of the courses for teachers, will hereafter be permitted to count towards an academic degree to the amount of twenty-four hours.

Some important changes have been made in regard to the work in Elocution. Hereafter courses in this subject will not be open to Freshmen. The credit for work done in this subject has been arranged as follows: for the elementary course, coming three hours a week, credit of three hours for the session, or of an hour and a half for the semester, will hereafter be given. For the advanced course, coming three hours a week, a credit of four hours for the session, or of two hours for a semester will be given.

In conclusion, permit me to express my high appreciation of the co-operation and support that I have received in the administration of the affairs of this Department from the President of the University and from my colleagues in the Academic Faculty.

Respectfully submitted,

J. C. JONES, Dean.

III. THE LAW DEPARTMENT.

REPORT OF THE DEAN.

To the President of the University of Missouri:

Sir: I beg to report that the number of students registered in this department for the present year is 111, distributed as follows:

First Class	53
Junior Class	37
Special Class	18
Graduate Class	3
Total	111

As was foreseen, the increased entrance requirements and the lengthening of the course have reduced the number of students in this department. The large graduating class of 1902 was the last of the two years' course in this school. The Junior class of this year, numbering only 37, was the first which in 1901 confronted the three year course of study. The fact that one year later there was a large increase in the number of students entering this Department furnishes a good ground for the belief that the increased requirements of academic qualifications and term of study will affect this Department only temporarily.

I had hoped that the last Legislature would have changed the present law as to the admission of attorneys by the Circuit Courts, and have placed the sole power to admit to the bar in this state in the hands of a board of examiners appointed by the Supreme Court. A bill to this effect has been twice introduced into the Legislature, with the endorsement of the bar associations of Kansas City, St. Louis and of the State, but has

each time suffered defeat in the House of Representatives. In the effort to have this legislation enacted this Department has done its full share and will continue to urge the reform upon the bar and the people of Missouri.

The library which for many years has been a constant reproach to the Department bids fair soon to become all that a good law school library should be. The appropriation for law books made by the Forty-first General Assembly, which became available last spring, and especially the library fee of $10.00 paid yearly by the students entering this Department, have resulted in adding to our shelves all the American State Reports, except those of one state, and also a large number of English Reports and American and English text books. The continuance of this fee insures a steady increase in necessary books, and supplemented by the appropriation of $5,000.00 by the last General Assembly, will very soon give us the best law library in any law school in the west, with the exception of the law school of the University of Chicago.

The death, in December last, of Judge Alexander Martin, Dean of this Department, removed from this Faculty its head for the last thirteen years, and caused the first break in its personnel since the resignation of Professor Tiedeman in 1891. The vacancy in the professorship occurring in the middle of the session it was thought wise to make no permanent appointment of a third professor until the end of the school year. His classes have been carried on by his two colleagues with two assistants, Messrs. Harvey D. Murry and Milton R. Conley, whose work has been entirely satisfactory to the Faculty. Judge Martin's professional and judicial life, as well as his life and labors in this School, are of record in the minutes of the Board of Curators, of the Council of the University and of the Faculty of Law in the resolutions spread upon the registers of those bodies and need not be repeated here. His death was a great loss to this Department, as well as a personal one to his col-

leagues, to whom he was not only a safe adviser but a close friend.

My appointment, on March 31st last, as Dean of this Department places upon me for the first time the duty of presenting this annual report. To assist me in this new work I have corresponded with a large number of the leading law schools—departments of Universities—to inform myself in regard to the nature of such reports in other institutions. From the replies to my inquiries I find that some of them, the law schools of the Universities of Minnesota, Wisconsin and Michigan, for example, publish no such reports. Others of those which have reached me, from Yale and Cornell, for example, are very brief, confining the report for the most part to the number of students enrolled, changes in courses of study and in the members of the faculty of the department. The report of the Dean of the Harvard Law School is the briefest of all, confining itself simply to a table of the number of students entering the department in the past thirty years, with percentages of graduates and non-graduates for those years, and the courses of study. The report of the Dean of the School of Law of Columbia University is, on the other hand, very elaborate and discusses questions as to methods of instruction and combination of academic and professional courses, which I am not prepared to take up at this time.

It is not fit that I should say anything here of what is to be done in the future. At the end of my first year of service as Dean, I trust I shall be able to report on much which has been accomplished toward the advancement of this Department of the University in influence and reputation.

Respectfully submitted,

JOHN D. LAWSON,

Dean of the Law Department of the University of Missouri.

May 1st, 1903.

IV. THE MEDICAL DEPARTMENT.

REPORT OF THE DEAN.

To the President of the University of Missouri:

Sir:—Permit me to submit for your consideration my annual report as to the condition of the Medical Department for the year 1902-03.

I am happy to say that a new Medical Building has been erected, equipped, and occupied, so that the students, as well as the professors, are now in comfortable quarters. This building is devoted, almost entirely, to laboratory purposes, there being two laboratories in anatomy, two in histology, one preparatory room for anatomy, one preparatory room for histology, one pathological laboratory, one bacteriological laboratory, and one laboratory for physiology. On the first floor are the following laboratories: Experimental laboratory, blood pressure laboratory, research laboratory, invertebrate laboratory, store room. In the basement are the following laboratories and rooms: Pharmacology laboratory, chemical store room, animal room, mechanics shop, and room for blood analysis; also laboratory for experimental surgery, surgical animal room; also a room for operative surgery on cadavera and a coid storage plant. The medical library is also housed in this building.

Dr. Max W. Myer has been appointed Professor in Obstetrics and Gynaecology and began teaching September 1, 1902. Dr. Guy L. Noyes, Professor of Ophthalmology and Dr. Walter McNab Miller, Professor of Pathology and Bacteriology, entered upon their duties September 1, 1902. Each of these gentlemen has received an appropriation for his special chair.

New teaching force has been added as follows: 1. Instructor in Internal Medicine (Physical and Clinical Diagnosis); 2. Instructor in Bacteriology and Pathology; 3. Instructor

in Pharmacology and Physiological Chemistry; and 4. Instructor in Anatomy and Histology.

The Combined Course leading in six years to the degrees of A. B. and M. D., has been more thoroughly elaborated and earnestly commended to all young men.

Dr. Rand having resigned, Dr. C. A. Good was appointed House Physician of the Parker Memorial Hospital, which position he has filled since September 1, 1902.

I am happy to say that all of these new men have given entire satisfaction and have filled their places well. In fact, there exists harmony throughout the entire Medical Department.

Miss Jean Kay having resigned from the Parker Memorial Hospital, her position was filled by Miss Sophie Love Evans, a very competent Head Nurse.

The Parker Memorial Hospital received an additional appropriation of $12,300 from the last Legislature. Mr. Adolphus Busch has given an additional $3,500 to furnish the Busch Clinic.

In the Busch Clinic there has been fitted up an outdoor department, consisting of one examination room, one private room for the faculty, one room for clinical laboratory, one for internal medicine and a room for ophthalmology, with a dark room attached. The outdoor department will be quite an addition to the clinical department.

There has also been added a drug store to the Parker Hospital.

The Training School for nurses in connection with the Hospital has been well organized and a complete course is given.

This Hospital has not only given great comfort to the entire student body, but I think it has been the means of saving many lives, amply repaying the State for all the outlay.

Respectfully submitted,

A. W. McALESTER, Dean.

V. THE COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

REPORT OF THE DEAN.

To the President of the University of Missouri:

Sir:—I have the honor to submit the following report of the progress and general condition of the College of Agriculture and Mechanic Arts for the year ending June 1, 1903:

This Department has made considerable progress during the year in several important directions. The most notable are the general improvement in the standards of scholarship, made possible by higher entrance requirements and additional laboratories and equipment; the expansion of University extension work through lectures at farmers' institutes, by bulletins and by correspondence; and the completion of important lines of experimental work.

ENTRANCE REQUIREMENTS.

The action of the Faculty in raising the entrance requirements has resulted in a considerably increased total attendance, especially in the higher classes, and the higher scholastic attainments of the students now pursuing agricultural courses is very marked.

The total attendance in the School of Agriculture for the year ending June 1, 1902, was 119. The total attendance during the present year has been 155. This is an increase of 33 per cent. In addition to the increased attendance, it has been possible to offer better and more advanced courses and more graduate work. It is also important to note that the present enrollment is made up of *bona fide* agricultural students whereas formerly many students enrolled in agriculture should have been enrolled in other departments.

AGRICULTURE IN THE PUBLIC SCHOOLS.

The Missouri College of Agriculture was the first institution in America to offer technical courses in Agriculture and Horticulture to teachers, with a view to training them to give instruction in these subjects in the public schools of Missouri. As a result of this work more than two hundred teachers have been sent out who possess some definite knowledge of the principles of Agriculture and Horticulture. Reports from these teachers during the year show that approximately five thousand Missouri children received some instruction in these subjects.

The greatest need now in further developing this work is a series of publications on the elementary principles of Agriculture and Horticulture. This need, we have undertaken to supply by the publication of a series of public school bulletins. The great interest in this work is in some measure indicated by the frequent demand for men to teach these subjects in teachers' institutes. The future development of this work means increased attendance in our agricultural courses here, and a general betterment of agricultural conditions in the State. Its importance cannot be over-estimated. We need especially a man to attend teachers' and farmers' institutes and to assist teachers by correspondence to develop this class of instruction.

BRANCH SHORT COURSES IN AGRICULTURE.

There is a constant demand for instructors from the College of Agriculture to carry on short winter courses at various points in Missouri. It would be an exceedingly desirable thing for us to encourage this kind of instruction, but with our present force already burdened with College and Station work, we cannot hope to expand in this direction. By the addition of two men to our present force, we could easily provide a number of such schools with vast benefit to the State and, indirectly, to our institution.

FARMERS' INSTITUTES.

The College has always co-operated with the Missouri State Board of Agriculture in carrying on farmers' institutes. At these institutes the instructors from the College are able to impart useful information and at the same time to secure an accurate idea of the varying conditions in the different sections of the State. The demand upon the time of our men is becoming so great that relief of some kind must soon be provided. During the year, representatives of the Agricultural College have attended more than 150 farmers' meetings and have delivered more than three hundred addresses. It is earnestly hoped that we may not be compelled to cut down this work by reason of insufficient force.

NEW EQUIPMENT.

We have established and equipped during the year a Laboratory for Agronomy. We have succeeded in adding to the material for instruction in Agricultural Engineering a large number of the best farm machines. We have carried on successfully, for the first time in the history of the institution, a thorough course in Dairy Husbandary, and are now thoroughly installed in the new buildings for Horticulture, Dairying, and Animal Husbandry.

The Forty-Second General Assembly has also made liberal appropriations for a Veterinary Hospital, a new barn, for breeds of live stock, and largely increased the sum for Experiment Station Work and for the equipment of new buildings. When these sums become available, the instruction and opportunities for original investigation will be very largely increased.

POULTRY INSTRUCTION.

In connection with the instruction in Animal Husbandry, we secured the services of Mr. T. E. Orr, a poultry expert,

who gave a two weeks course of lectures before the Agricultural students during the month of March. The average attendance upon this course was at least 75. It seems desirable that this instruction be continued, and suitable provision be made for future work in this important line.

THE SCHOOL OF ENGINEERING.

Teaching Force:

At the beginning of the present year Professor Arthur M. Greene, Jr. (University of Pennsylvania), took charge of Mechanical Engineering, and the teaching force of this department was increased by the addition of Mr. Charles Wentworth Hodsdon (S. B., Mech. Eng'g, Massachusetts Institute of Technology), as Instructor.

Mr. W. S. Williams, Instructor in Civil Engineering, has been appointed Asst. Professor of Civil Engineering.

In addition, to carry on the work of the Civil Engineering Department properly it was found necessary as a temporary expedient to appoint two Assistants in Surveying.

Though the situation demanded it there was no increase in the teaching force in Electrical Engineering.

Assistant Prof. L. M. Defoe has been absent for the year in Europe perfecting himself for taking charge of the work in Mechanics. He will take up the work of this chair in September next. This will relieve the Mechanical Engineering Department somewhat, as Mechanics has been taught by this department, and will greatly strengthen the School of Engineering as a whole.

Mr. William Hutchinson Cook (Columbia University), has been Instructor in Mechanic Arts during the present year.

Mr. Arthur Chester Duncan, graduate of the Williamson Trade School, Philadelphia, was appointed Instructor in Machine Work, and Mr. F. G. Bender, and Mr. W. Dudley, Assistants in Shop Work.

Mr Thomas Jackson Craig and Mr. Milo Hamilton Brinkly were appointed Assistants in Drawing and have served throughout the year.

Mr. T. J. Rodhouse, Instructor in Drawing, has been granted a year's leave of absence for graduate work.

The last General Assembly made provision for an instructor in each Civil, Electrical and Mechanical Engineering. Every effort is now being made to secure the best available men for these instructorships, so that September next the teaching force of the School will be

In Civil Engineering:

Frederick Putnam Spalding, C. E., (Lehigh '80), Professor of Civil Engineering.

Walter Scott Williams, C. E., (Univ. of Mo. '85), Assistant Professor of Civil Engineering.

Instructor in Civil Engineering to be appointed.

In Electrical Engineering:

Howard Benton Shaw, B. C. E., A. M. (Harvard), Professor of Electrical Engineering.

Instructor in Electrical Engineering to be appointed.

In Mechanical Engineering:

Arthur M. Greene, Jr., B. S., M. E. (Univ. of Penn.), Professor of Mechanical Engineering.

Instructor in Mechanical Engineering to be appointed.

In Mechanics:

Luther Marion Defoe (A. B., Harvard '93), Assistant Professor of Mechanics.

In Drawing:

Thomas Jackson Rodhouse (B. S. in C. E.. Univ. of Mo., '97), Instructor in Drawing. (Leave of Absence for 1903-'04).

Acting Instructor in Drawing and Assistants to be appointed.

In Shopwork:

William Hutchinson Cook (Teachers College, Columbia Univ.), Instructor in Manual Training.

Arthur Chester Duncan, Instructor in Machine Work.

Curriculum:

The four year course in Mechanic Arts has been abolished and the studies now taught in the department are those required for the regular Engineering course and industrial work for the Department of Education together with a few electives which do not count for a degree.

The additional equipment (which will be referred to later) has necessitated some slight changes and rearrangement of the courses in Civil, Electrical, and Mechanical Engineering, the most noticeable of which is the reduction of shopwork in the Sophomore year from three hours to two hours and drawing for the same year from three hours to one hour for both the Electrical and Mechanical Engineering courses, and the addition in place of the hours made vacant of Steam Engine (descriptive) three hours first semester and Kinematics three hours second semester.

Laboratories and Equipment:

The addition to the Engineering building known as the Engineering Laboratory has been completed and has been in use since the first of January last. On the ground floor are three

large rooms, viz.: Laboratory for Testing the Strength of Materials (Civil Engineering) Dynamo Laboratory for both Direct and Alternating Currents (Electrical Engineering), and Steam and Hydraulic Laboratory (Mechanical Engineering). The rooms on the second floor are used for recitation, instrument and drawing rooms for the Civil Engineering Department; Laboratory for testing materials used in electrical construction and high voltage work for the Electrical Engineering Department; drawing room and laboratory for coal and gas analysis for the Mechanical Engineering Department.

To the Civil Engineering Department has been added a complete line of instruments, transits and levels, including a large and accurate instrument for triangulation and the best obtainable instrument for precise leveling, as well as testing machines, and apparatus for cement testing.

To the equipment of the Electrical Engineering Department have been added a number of direct current dynamos of different kinds, ammeters, voltmeters and wattmeters and switchboards; double current generators which can be used for a great variety of tests and laboratory experiments, induction motors and alternating current instruments; standards for the exact determination and measurement of current and voltage, high potential transformers and a Duddell Oscillograph.

The equipment in Mechanical Engineering has been increased by the addition of a number of small steam engines, gas, oil and hot-air engines, steam pumps, steam turbine, air compressor and pelton water wheel, besides ventilating fans, heating coils, condensers, tanks, weirs, pressure gauges and instruments.

Students:

The accompanying table shows the enrollment during the year.

	F.	So.	Jr.	Sr.	Sp.	Gr.	Tot.
Civil Engineering	33	26	22	16	4	1	102
Electrical Engineering	30	23	16	8	2	4	83
Mechanical Engineering	8	..	10	7	3	3	38
Chemical Engineering	....	1	1	...	....	....	2
Total	71	57	49	31	9	8	225

It is a rather interesting as well as encouraging fact that for this year as for the last few years there has been an increase of almost exactly 25 per cent a year.

It is doubtful if there has even been a greater demand for engineering graduates than at the present time.

In fact, as noted in my report of last year, the demand for engineers is so great that immature students who have had only part of the regular required work are attracted away by it. This seems especially deplorable as these young men usually regret this step in a very short time.

We have discouraged students from entering as special students and in each case such special students have been required to take the regular work in order, in so far as possible.

There has been a slight increase in the number of students taking graduate work.

I would call your attention especially to the following:

Department Library:

It seems decidedly advantageous to combine the three department libraries of Civil, Electrical and Mechanical Engineering into one Engineering library accessible to all teachers and students. A suitable room on the second floor of the new laboratory building, convenient of access, is available and could be fitted up at slight expense for shelves, chairs and tables.

It would seem advisable to put in charge of this library an advanced student or other suitable person under the direct control of the Librarian of the University.

Course in Electro-Chemical Engineering:

I would advise that as soon as possible an Assistant Professor of Electro-Chemical Engineering be appointed in order that a course in Electro-Chemical Engineering may be developed. There seems no doubt that in a few years this branch will be on a par with the other divisions of Engineering. Such a man would also be of inestimable benefit in helping to build up the department of Chemical Engineering which was established last year.

List of Graduates:

Some provision should be made for keeping track of Engineering graduates and for the publication from time to time of lists of such graduates with positions held, addresses, etc. This would be very stimulating to the growth of the School of Engineering as also to the ambition of individual students.

Finally, as I have been given leave of absence for next year, and as the administration of the affairs of both this School and of the College of Agriculture has grown somewhat burdensome in the past few years, it seems advisable to appoint a Dean of the School of Engineering.

THE EXPERIMENT STATION.

The main lines of work in connection with the Experiment Station are being prosecuted with vigor, and important results have been secured during the year.

In Animal Husbandry we have undertaken an extensive experiment in cattle feeding in co-operation with the United States Department of Agriculture. The United States Government has located a special agent here, Mr. Merritt W. Harper, M. S., of the University of Illinois, who is carrying out the details of this important experiment. The Station has now on file the results from five years' experiments in cattle feeding, and these are ready for publication.

Dr. J. W. Connaway, Professor of Comparative Medicine, has been making some careful investigations in connection with the contagious diseases of domestic animals.

Professor F. B. Mumford has continued experiments in animal breeding, and equipped a portion of the new building for animal husbandry for the purpose of carrying out these investigations.

Dr. R. M. Bird, Acting Professor of Agricultural Chemistry, has during the year discovered a method of preparing a dust spray, having the same composition as the liquid Bordeaux mixture extensively used by fruit growers. This discovery is one of great importance to the Horticulturists of this and other States.

Dr. J. C. Whitten has made some important discoveries on the self-fertility of several common fruits. He has also made great progress in the study of apple stocks which will be resistant to the distructive disease, crown gall. The results of these and other important investigations will soon be ready for publication.

Professor C. F. Marbut, continuing his investigations with the cement rocks of the State, has discovered in the vicinity of Kansas City a very large deposit of limestone which seems to possess all of the necessary characteristics for the manufacture of the very best Portland cement. This limestone is identical in composition with the famous Iola limestone.

CO-OPERATIVE EXPERIMENTS.

The Station has undertaken two lines of co-operative experiments which are of great importance to the commonwealth of Missouri. A careful study of the adaptability of various commercial fertilizers to the different sections of the State is being made with a view to determining the limits of their use in this State. The work has attracted wide attention and much interest among progressive farmers.

Alfalfa has proved to be one of the most promising forage crops in nearly every western state. It has not so far been successfully grown in this State, except in a few favorable localities. We have begun a careful series of investigations to determine the methods necessary to insure the successful growth of this valuable plant in our State.

All of these experiments are in charge of Dr. G. M. Tucker, Instructor in Agriculture.

CHANGES IN THE FACULTY.

The Board of Curators have given the present Dean and Director a leave of absence from May 1st, 1903 to assume the duties of Superintendent of Agriculture at the St. Louis Fair. Professor F. B. Mumford has been appointed Acting Dean of the College of Agriculture and Mechanic Arts and Acting Director of the Experiment Station during my absence.

In September J. C. Whitten, Ph. D., Professor of Horticulture, who had been granted a year's leave of absence to study in Europe, returned and assumed charge of the Department of Horticulture.

In June Dr. Paul Schweitzer, Professor of Agricultural Chemistry, was granted a year's leave of absence for study in Europe, and Dr. R. M. Bird, Ph. D., of Johns-Hopkins University, was named Acting Professor of Agricultural Chemistry and Chemist to the Experiment Station during Dr. Schweitzer's absence.

E. L. Shaw, B. S., of the University of Ohio, has been appointed Assistant in Agriculture to the Experiment Station.

E. H. Favor, A. B., University of Missouri, was appointed Laboratory Assistant in Botany.

Through the liberality of the Forty-Second General Assembly, we will be able to add Instructors in the following Departments:

Horticulture,
Veterinary Science,
Botany,
Entomology.

These additions to our teaching force will do much to relieve a severe strain that has been placed upon our men during the past year.

Respectfully submitted,

H. J. WATERS,
Dean and Director.

VI. THE SCHOOL OF MINES AND METALLURGY.

Rolla, Missouri.

REPORT OF THE DIRECTOR.

To the President of the University of Missouri:

Sir:—As Director of the School of Mines and Metallurgy I submit the following report for the academic year 1902-03.

The past year has been characterized by a continued growth in attendance at the School of Mines, an improved quality of students, a rapid enlargement of what may be called the School's plant, and a strenuous life on the part of an all too small corps of teachers and officers.

ATTENDANCE.

In my last report I showed in tabular form the attendance at the School from 1891-92 to 1901-02. This table showed the enrollment for the first two weeks, the total enrollment for the year, the number of women, the number of men, the number coming from Rolla and adjacent territory, and the number from other states. It showed a steady growth in attendance from the year 1896-97.

The present total enrollment is two hundred and nine. Of these, two hundred and five are men. The increase of male students over last year is twenty-two, and the increase in six years three hundred and forty-seven per cent. The number of students from other states and countries has increased from eighty to eighty-seven.

The new entrance requirements which went into effect last fall diminished our prospective enrollment, but did not check our continued growth. The students entering, however, were on the whole much better qualified to carry on their studies than those of former years.

The following table shows the growth and development from the year 1895-96 (when the preparatory department was abolished) up to the present time:

	1895-96	1902-03
Total enrollment	72	209
Enrollment first two weeks	50	172
Women	13	4
Percentage women enrolled	18½	2
Men	59	205
From other states and countries	20	87
Per cent. of local attendance	42	12
Percentage growth		347

The enrollment of students in typical technical subjects taught at the School of Mines shows still more emphatically the progress which has been made.

The following table illustrates this progress and shows the strain which has been put upon our teaching force:

	1895-96	1902-03
General Chemistry	23	68
Inorganic Chemistry	14	107
General Physics	7	51
General Geology	4	67
Ore Dressing	9	40
Descriptive Geometry	5	52
Higher Algebra	15	78
Calculus	4	64
Average	10	66

The School of Mines can no longer be classed as a local academy as it was five years ago in a paper on mining schools in the Transactions of the American Institute of Mining Engineers.

The following table shows that our students come from a wide range of territory—twenty-eight states and four countries

being represented in our enrollment; that the Missouri students come from all sections of the State; and that almost twice as many students come from St. Louis and Kansas City as from Phelps county.

The number of students who have come from other colleges, and the number of college graduates enrolled are striking illustrations of the improvement in the quality of the student body as a whole.

ATTENDANCE BY STATES AND COUNTRIES.

Arizona	3	Nevada	1
Arkansas	2	New York	6
California	2	North Carolina	1
Colorado	14	North Dakota	1
Florida	1	Ohio	2
Germany	2	Pennsylvania	3
Idaho	1	Rhode Island	1
Illinois	7	South Dakota	1
Indiana	1	Tennessee	2
Iowa	4	Texas	8
Kansas	8	Utah	2
Kentucky	2	Virginia	1
Massachusetts	1	West Indies	1
Mexico	4	Wisconsin	1
Michigan	1		
Missouri	122	Total	209
Nebraska	3		

SUMMARY.

Missouri	122
Other States and Countries	87

ATTENDANCE FROM MISSOURI BY COUNTIES.

Adair	1	Bates	1
Audrain	1	Buchanan	3
Barry	1	Butler	1

Callaway	1	Macon	1
Carroll	1	Maries	1
Clay	1	Marion	1
Clinton	1	Miller	1
Crawford	1	Newton	2
Dade	1	Nodaway	3
Dent	3	Pettis	1
Franklin	1	Phelps	24
Gentry	1	Pike	1
Greene	3	Platte	1
Grundy	1	Pulaski	1
Harrison	1	St. Francois	1
Howard	1	St. Louis	3
Iron	2	Texas	1
Jackson	14	Webster	2
Jasper	3	Worth	1
Jefferson	1	St. Louis City	26
Laclede	4		
Lawrence	2	Total	122

Number of students who have come from other colleges.... 41
Number of college graduates..... 30

TEACHING FORCE.

Owing to lack of funds we have been unable to enlarge our teaching force in proportion to the increased attendance, and we have now but one professor to every two employed by our principal rivals.

The following changes are the only ones of importance occuring in our Faculty during the past year:

Professor Elmer James McCaustland resigned the chair of Civil Engineering to accept a similar position at Cornell University, and Mr. Ira Welch McConnell, graduate of Cornell University, and native of Missouri, was appointed in his place. Last summer Mr. Robert Clair Thompson, graduate of Westminster College, Pennsylvania, was appointed Instructor in Chemistry, and Mr. Joseph Henry Bowen, a graduate of the Miller School

of Virginia, was appointed Instructor in Shop Work and Drawing, while Mr. James Clark Draper, who had carried the work in that subject last year, subsequent to the death of Mr. Croswell, was made Instructor in Assaying and Mineralogy.

Our teaching force is much too small and the work of the heads of departments altogether too large, and it is probable that at least two new instructors will be appointed by our Executive Committee before the beginning of the next school year.

DISCIPLINE.

The school has been remarkably fortunate for many years in the good conduct of its students. This year has been no exception to the rule, and discipline, if it may be called that, has been wholly confined to the dropping of a few students from the roll on account of poor work in their studies.

CAMPUS AND ATHLETIC FIELD.

The grounds of the School of Mines are a little over twenty-seven acres in extent. The "old fort" tract, immediately east of the Mining and Metallurgical Building, and covering about seven acres, was purchased last year as a site for the new Engineering Building. The grading of this portion of our grounds can not be completed this year owing to lack of funds, but the grove of native trees just north of the Engineering Building and about three acres in extent, has been cleared of underbrush and the poorer trees cut down. This in a few years will equal in beauty and attractiveness the grove on the north and west sides of the old campus, from which a great many superfluous trees have been culled.

The athletic field, which lies north of the main campus, and is about ten acres in extent, is surrounded on all sides by native oaks which have been thinned out sufficiently to allow free growth to the individuals. The base ball and foot ball fields on

this tract have been put in excellent condition, but the slope of the ground from north to south is still so great that extensive grading is necessary to make them wholly satisfactory.

The track team and athletic association have for several years urged the construction of a cinder track suitable for the one hundred yard dash. Such a track, sixteen feet in width, is now being constructed on the east side of the athletic field.

The lawns of the old campus, which were practically ruined by the drought of the summer of 1901 have been resown in blue grass, and are in splendid condition.

For several years we have attempted to cover our buildings with clinging vines, with but partial success. Therefore, many new vines have been more carefully set out this spring. The north and east sides of the Chemical Laboratory, and the north and west sides of the old Main Building are now covered with the green leaves of the ampelopsis veitchii and quinquefolia. The old shade trees about the campus survived the drought of two years ago as a result of constant irrigation, but the young trees all died. Last fall and early this spring about three hundred elms and a number of cut leaf birches, tulip, magnolia, and several European trees (the gift of the United States Geological Survey) have been set out and are all alive and thriving.

If the School could purchase in the near future the block immediately south of the old fort site, and if the city would then close up the streets separating its grounds, there would be a fine approach to all its buildings, and a campus which would rival in beauty any college campus in the west.

BUILDINGS.

All the older buildings are in good condition, with the exception of the Mining and Metallurgical Laboratory, which needs some extensive repairs on the southeast corner walls. Much of the brick work also needs repointing. It is the intention of the

Executive Committee to have all the necessary repair work completed on this building during the coming summer.

The additions to the Chemical Laboratory were completed, structurally, a year ago, and were mentioned in my last report. The new north wing has this year been completed internally, and has been fitted and equipped for the department of assaying. It is divided into five rooms, conveniently arranged. On the north side there are three balance rooms about sixteen feet by sixteen feet each. Adjacent to these is a long work room running the width of the wing and equipped with suitable benches, desks, hoods, cupboards, etc. In the eastern portion of this wing is the assay furnace room about forty feet by fifty-five feet. This room is equipped with all the necessary furnaces and assay paraphernalia. The south wing, which is sixty feet by sixty feet, is now used as a chemical lecture room, and occasionally as a general assembly room. It is equipped with large hoods with glass fronts and sides, and with amply large and well appointed lecture desk. This room is also provided with an electric projection lantern.

The new second story of this building has been completed internally and several of the laboratory rooms equipped with the necessary hoods, desks, etc., of modern pattern. It is now being regularly used by students.

MECHANICAL BUILDING.

We were only able to complete this building structurally, with the appropriation made by the Forty-First General Assembly. Work on the interior, costing about $2,000 has been necessary to make it ready for occupancy. It is a two story brick building, one hundred and fifty feet by sixty feet. The second story is subdivided, the northern portion being used for freshmen drawing, and the southern for the class in wood work. These rooms are equipped with the necessary drawing tables, lathes, work benches, etc. Work on the interior of the first story

is now in progress, and it is expected that several of the laboratories will be equipped and ready for occupancy next fall. It will contain a forge room, dynamo and engine room, a metal work room, and hydraulic, cement testing and ceramic laboratories.

HEATING AND POWER PLANT.

During the summer of 1902 a new boiler house was constructed adjacent to the old one which is connected with the west side of the mill room, a portion of the Mining and Metallurgical Building. In this boiler house were installed two, new, one hundred and thirty horse power, Heine Boilers, with the necessary pumps and equipment belonging to the Webster Heating System. New and sufficient radiation was provided in the Mechanical Hall, Mining and Metallurgical Building, the Old "Main Building" and Chemical Laboratory, all of which were connected with the new and old boilers, and over the former a new iron stack was erected.

The building occupied by the Geological Survey, and formerly used as a club house, was equipped with separate steam boilers and the necessary radiation. The entire heating system was completed within the appropriation and within the contract time, and it has proved satisfactory in every way during the past winter.

ENGINEERING BUILDING.

Owing to the advance in the cost of labor and structural material it was found impossible to complete the new building according to the plans of the architect, which were based on our needs of floor space; but after changing the specifications so that a slate roof was called for instead of tile, and Bedford stone instead of Carthage, two items which cheapened the cost of construction by $5,000, the contract was let for the structural completion of the building, and it is now ready for the interior

finishing, installation of a heating system, plumbing and electric wiring. Contracts for this work will probably have been closed before the publication of this report. It is expected that the work will be completed this summer and that some of our departments will occupy the building next fall.

This building is a very imposing structure and is undoubtedly the handsomest state building in Missouri. The work upon it has been carefully supervised by a representative of the architect, and, both in appearance and quality of workmanship it reflects great credit upon the architects, Van Brunt & Howe, of Kansas City and Boston, and upon the contractors, McCully & Son, of St. Louis.

EQUIPMENT.

With the exception of our Chemical Laboratory all our department laboratories are inadequately equipped, although during the past two years we have added much necessary apparatus and a considerable number of instruments to the departments of civil engineering, mineralogy and geology.

If by good fortune the income from the Collateral Inheritance Tax equals the appropriations made from that fund by the Forty-Second General Assembly, we can add largely to our equipment and put all the departments in good working condition, unless the attendance at the School should continue to increase.

LIBRARY.

The weakest point of the school is undoubtedly its library, which contains but little over three thousand volumes many of which are of slight value. Its material increase during the present biennial period depends upon the income from the Collateral Inheritance Tax. Arrangements have been made for a card catalogue of the books and pamphlets, but work upon it has not yet commenced. The library will probably be moved

to the first floor of the Main Building before the opening of another school year, where there will be added to it a separate reading room.

We now subscribe to a large list of scientific journals and periodicals, but one of the Library's greatest needs is complete files of these publications.

ATHLETICS.

The Faculty and Instructors of the School have for several years, within proper limits, encouraged and fostered athletics. Great pains have been taken to develop strictly amateur teams and to make all participants in intercollegiate games bona fide students in good standing.

The students have organized an athletic association, foot ball team, base ball team, track team, and tennis club. The officers of the Athletic Association and of the various teams and a member of the Faculty constitute a Board or Control of Athletics, and the questions of finance, schedule, training, etc., are subject to the will of this Board, which is of course, ultimately under the control of the Faculty. The Association is out of debt and is in as flourishing a condition as is possible in a school with comparatively few students.

In addition to the base ball and foot ball grounds and the track mentioned in another portion of this report we have a number of exceptionally good tennis courts.

The great need now is a gymnasium where all the students could get proper exercise. The various teams have been encouraged and aided, because they do much to create college spirit and to furnish exercise for about one-third of our students, but owing to the large amount of laboratory work required of students in technical institutions but little time is left for the practice of athletic teams, and I consider the erection of a gymnasium for the school, in the near future, a matter of great importance.

SOCIETIES.

A number of societies have been successfully maintained for years by the students. Among these are the Literary Club, Engineering Club, Mining Club and Department Seminars. There is also a student Orchestra, Glee Club and a Mandolin Club, and the students have an organization which gives an annual minstrel show for the benefit of athletics.

During the past year a chapter of the National College Fraternity, Sigma Nu, has been installed at the School, and has started with its personnel selected from among the best of our students.

EMPLOYMENT OF GRADUATE STUDENTS.

In spite of the large number of mining schools which have been established in the last few years in the United States, and the great number of trained men going from their doors, a constant demand for our graduates and students exist, and the temptation to secure employment at remunerative salaries is so great that many men accept positions before graduation.

Fully forty per cent. of our students leave us each year and take up practical work, with the result that the size of the graduating classes, as well as the average annual attendance is reduced. This evil cannot be prevented until the young men of the west fully appreciate the importance of a complete course which is such a necessary stepping stone to the higher positions in the engineering world.

Respectfully submitted,

GEO. E. LADD, Director.

VII. THE SUMMER SCHOOLS.

REPORT OF THE DIRECTOR.

To the President of the University of Missouri:

Sir:—I have the honor to submit herewith a report on the Summer Schools for the Summer of 1902.

During the Summer of 1902, the University conducted two Summer Schools, the Summer Session at Columbia and a Branch Summer School at Mountain Grove.

A. THE SUMMER SESSION AT COLUMBIA.

The Summer Session of 1902 was an important one in the development of Summer work. It was the second Summer Session in which all the courses, except those in Agriculture, Horticulture and Chemistry, in the various subjects were offered for the entire session of twelve weeks. The satisfactory character of the work done and the large number of students remaining throughout the entire session, confirmed the opinion previously formed that this change was wisely made. Courses were offered in the following subjects: Agriculture, Biology, Chemistry, English, French, German, Greek, History, Horticulture, Latin, Mathematics, Physics and Shopwork. The courses in Agriculture were given during the first term only, and those in Horticulture during the second term only. Private courses in Free-hand drawing were given during the first term. The private courses offered in Geology were withdrawn before the opening of the session, because of the necessary absence of the instructor. Four hundred and nine students were enrolled—one hundred and seventy-eight women and two hundred and thirty-one men. Their election of courses was as follows:

	Men	Women	Total
Agriculture	11	19	30
Biology	22	9	31
Chemistry	17	4	21
Drawing	7	13	20
English	67	73	140
French	26	31	57
German	30	15	45
Greek	16	8	24
History	64	43	107
Horticulture	10	7	17
Latin	24	21	45
Mathematics	44	29	73
Physics	43	15	58
Shopwork	16	26	42

Eighty-six counties, the city of St. Louis, and twenty-seven states and territories and foreign countries were represented in the enrollment. A list with the number of students from each is given below:

Adair	2	Clinton	2
Andrew	2	Cole	2
Atchison	3	Cooper	2
Audrain	16	Crawford	1
Barton	6	Dade	4
Bates	5	Dallas	1
Bollinger	1	Daviess	1
Boone	71	Lafayette	3
Butler	2	Lawrence	1
Caldwell	5	Lewis	3
Callaway	4	Lincoln	5
Cape Girardeau	2	Linn	5
Carroll	4	Livingstone	2
Cass	9	Macon	5
Cedar	2	Madison	1
Chariton	5	Marion	7
Clay	5	Mercer	1

Miller	1	Iron	1
Moniteau	4	Jackson	19
Monroe	14	Jasper	7
Montgomery	3	Jefferson	4
Newton	4	Johnson	1
Nodaway	5	Knox	1
Oregon	1	Laclede	1
Osage	1	Randolph	2
Perry	1	Ripley	1
Pettis	2	St. Charles	6
Pike	5	St. Clair	6
Platte	3	Ste. Genevieve	1
Polk	1	St. Louis	8
Ralls	1	Saline	4
DeKalb	2	Schuyler	1
Dunklin	1	Scotland	1
Franklin	3	Scott	1
Gasconade	4	Shelby	6
Gentry	4	Stoddard	4
Green	1	Sullivan	2
Grundy	1	Texas	1
Harrison	6	Vernon	1
Henry	9	Washington	1
Hickory	1	Wayne	1
Holt	5	Wright	2
Howard	2	City of St. Louis	5

Arkansas	4	Louisiana	1
California	2	Michigan	1
Florida	1	Minnesota	1
Georgia	1	Mississippi	1
Illinois	3	Missouri	361
New York	2	South Carolina	1
Ohio	1	Tennessee	2
Oregon	1	Utah	1
Oklahoma	1	Vermont	1
Pennsylvania	2	Washington	1
Indiana	1	Argentine Republic	2
Iowa	5	Japan	1
Kansas	7	China	1
Kentucky	3		

The table that is given below shows the various classes of teachers enrolled in the Summer Session of 1902:

	Men	Women	Total
Superintendents	7	0	7
Principals	46	3	49
Teachers in High Schools	13	21	34
Teachers in the Grades	7	72	79
Teachers in the District Schools	38	32	70
Teachers in the Normal Schools	1	1	2

B. THE BRANCH SUMMER SCHOOL AT MOUNTAIN GROVE.

The Branch Summer School at Mountain Grove was conducted from June 23 to August 9. Courses were given in English, History, Mathematics, Latin and Physics. Sixty-eight students were enrolled, thirty-nine women and twenty-nine men. Their election of courses was as follows:

	Men	Women	Total
English	22	28	50
History	6	10	16
Latin	0	3	3
Mathematics	17	30	47
Physics	9	7	16

While the enrollment in this school was not so large as was anticipated, because of other Summer schools in that section of the State, yet the educational stimulus that it afforded to the teachers who were enrolled was very great.

GROWTH OF THE SUMMER SCHOOL.

TABLE I.

Showing Year by Year the Enrollment in the Summer School.

Year	Enrollment
1895	30
1896	80

1897	76
1898	119
1899	268
1900	438
1901	507
1902	409

TABLE II.

Showing Year by Year the Number of Counties and States Represented in the Summer School.

Year	No. of Counties	No. of States
1895	16	2
1896	38	7
1897	34	2
1898	41	11
1899	67	9
1900	75	18
1901	85	21
1902	86	27

TABLE III.

Showing Year by Year the Number of Students in the Regular Session who Took Work in the Summer School.

Year	Number
1895	3
1896	17
1897	19
1898	36
1899	58
1900	91
1901	125
1902	146

TABLE IV.

Showing Year by Year the Number of new Students who Took Work in the Summer School and then Matriculated in the Regular Session Immediately Following.

Year	Number
1895	1
1896	10
1897	4
1898	12
1899	14
1900	28
1901	31
1902	32

TABLE V.

Showing Year by Year the Number of Students Who Took Work for one Term in the Summer School and the Number of Those who Took Work for Two Terms.

Year	One Term	Two Terms
1895	17	13
1896	59	21
1897	57	19
1898	83	26
1899	198	70
1900	265	119
1901	278	227
1902	245	164

The above tables show some interesting facts. The enrollment increased in six years fifteen hundred and fifty-seven percent; in the seventh year the increase was twelve hundred and sixty-three percent. The number of counties represented has increased four hundred and thirty-seven percent, and the

number of States and foreign countries twelve hundred and fifty percent. There has also been a steady gain in the number of students in the regular session taking work in the Summer session. In 1895 the number of such students was only ten percent of those enrolled in the Summer session; in 1901 it was nearly thirty-six percent. The large increase in the number of students who remained for the entire session shows that the change from courses of six weeks to courses of twelve weeks was wisely made. The next step forward should be that of increasing the teaching force and the number of courses offered in the various subjects. By doing this, a much wider range of courses could be offered and the usefulness of the Summer session to the teachers be vastly increased. It is quite clear that our future growth depends largely upon such an extension of our courses and such an increase in the teaching force. The tables show a decrease in nearly all of the standard courses. I recommend therefore that for the Summer Session of 1904 the faculty and courses be increased to whatever extent the funds will allow.

Respectfully submitted,

J. C. JONES,

Director of the Summer Session.

VIII. THE UNIVERSITY LIBRARY.

REPORT OF THE LIBRARIAN.

To the President of the University of Missouri:

Sir:—The Librarian begs to submit the following report of the University Library for the year beginning May 1st, 1902, and ending April 30th, 1903:

The year's work at the library has been characterized by no striking changes or improvements. The very limited space in which the library is confined makes it quite impossible for us to institute many very desirable reforms, and compels us to submit to inconveniences and hinderances unpleasant alike to the student, the teaching force and the library staff.

THE READING ROOM.

The following table exhibits, with a considerable degree of accuracy, the work done in the reading room during the past year:

1902	Books circulated.	Periodicals circulated.	Books used.	Periodicals used.	Average attendance in reading room.
May	613	113	3454	1016	25
June	401	82	1690	270	25
July	574	63	1422	261	22
August	431	119	624	212	12
September	218	111	2554	600	19
October	918	193	4619	776	31
November	949	231	3452	728	29
December	853	66	2859	752	28
January	912	115	2636	790	25
February	1065	120	3949	783	35
March	1317	*135	4532	*825	35
April	1133	*120	3199	*800	29
Total					
1901-02	5564	1221	42800	11492	21
1902-03	10381	1468	34990	7813	26

*Estimated.

From the above table it will be seen that there has been an increase in the number of books circulated of nearly 100 per cent, and that there has been a slight falling off in the recorded number of books used in the reading room itself. Both of these facts can be accounted for very readily.

At the June meeting, the Board voted to abolish the deposit required of students before borrowing books from the library. The granting of this privilege caused an immediate and gratifying increase in the number of books circulated. The number of students who were borrowing books from the library when I came in 1900 was 57. The Assistant Librarian reports to me that at present 621 students are exercising the privilege. This is, to my mind, quite as it should be. There is an intimate acquaintance with a book which a student gets by having it in his room, which it is quite impossible for him to secure by an occasional use of it in the reading room of the Library. The increase in the number of books circulated has caused a slight falling off in the number of books used in the reading room, but this falling off is seeming rather than real. A large and increasing amount of reading is done in books specially reserved for reference in connection with certain courses, and of this use we have no definite statistics. The average reading room attendance has increased from 21 last year to 26, and is quite as large as the capacity of the room will admit. Although about twenty more chairs have been placed in the reading room during the past year, it is frequently true that all the seats are occupied and students are obliged to stand.

The increase in the use of the Library has not, I am sure, caused any increased loss of books. The loss is, however, very much greater than it should be. We constantly find books missing, particularly among those placed on special reference lists. As a general thing these books are returned after a few days, but quite frequently they entirely disappear. I am unable at this time to give any exact figures as to the loss of books. During

the coming summer I expect to make an inventory of the entire Library, and in my next report I shall be able to give figures that will represent the rate of loss.

The amount of loss during the past year, taken in connection with other facts, has led me to consider very seriously whether it would not be better to restrict the use of the shelves to such students as are considered by the departments in which they are working to have some definite reason for desiring to go to the shelves. Before the opening of the next University year I shall make some recommendation to the Board on this subject.

The work of the reading room has increased to such a degree during the past year that it has been necessary to give the head of the reading room the assistance of one of the other members of the staff for several hours daily. This assistance must be continued and probably increased.

There is an increasing call for longer hours of library opening. It seems to me that the time has come when this demand should be satisfied. I shall, therefore, before the end of the year, present a plan whereby the reading room can be open continuously, with the possible exception of the hour from 6 to 7 p. m., from 8:30 a. m. to 10 p. m.

I wish to reiterate what I said in my last report in reference to the lack of ventilation in the reading room. The air is frequently so bad that serious work there is practically impossible. The present ventilating apparatus is absolutely inadequate. Recourse to window ventilation is at best unsatisfactory and unsafe.

I am informed that an electric fan can be placed in a temporary box in the south end of the room at a cost not far from fifty dollars and that this fan would greatly relieve, if not entirely remedy, the difficulty.

SERIAL PUBLICATIONS.

About the middle of March the library secured possession of one of the rooms occupied up to that time by the department of Physiology. This room was converted into a reading room for serial publications. On the walls are shelved all the current serials, all unbound volumes, and such sets indexed in Poole as we have in the library.

The change has been of great advantage both from the point of view of the reader and of the administration. It has enabled us to bring together material which before was very much scattered. It has permitted us to display all the periodicals for which we are subscribing, and to turn without any delay to any of the unbound volumes of periodicals.

The room has been put in charge of one of the members of the library staff, and is open from 8:30 to 12:30, and from 2 to 5 daily. During the evening the current numbers of the more popular periodicals are removed to the main reading room. It is to be regretted that this room cannot be kept open during the evening, but with our present force it is quite impossible.

The library is now receiving by purchase and gift, 381 periodicals, 312 by regular subscription, and 69 by gift. The bill for subscriptions for the past year was $1,461.62; or in other words, the tax on the biennial appropriation is very slightly below $3,000.

We are receiving on special order from year to year considerable number of annuals which should be put on the permanent subscription list. The sets are in some cases already quite broken, and it is frequently difficult to fill in the gaps. The sum required to place these annuals on the regular subscription list where they belong, would be less than $100. Provision should be made for this in the new budget.

I desire to point out the extreme desirability of an increase in our subscription list. In almost every line of research the

periodical is very much more valuable for the student than the book. In fact, in some lines almost all material with which the student has to deal is found in the journals. The text books have not as yet been written, or if they have appeared they are out of date almost before they leave the press. Some lines of research carried on or attempted at this University are scarcely represented at all, or at best very poorly represented on our subscription list. We have almost nothing in History. We need more material in Botany, Chemistry, Geography, Medicine, Mathematics, Economics, Sociology and Public Law. I think that it is advisable to add to our subscription account at least $300 annually.

During the past year considerable progress has been made in completing sets of periodicals both of a scientific and of a general character. We must continue and extend this policy in the future if we are to have a satisfactory working library. We are particularly weak in the sets indexed in Poole. Not a day passes that students do not bring me references needed in their work, from a half to two-thirds of which are useless, as we do not have the sets in the library. These sets are, for the most part, not expensive, and an appropriation should be made for their purchase. We have almost none of the publications of learned societies of a literary and scientific character. Most of these sets are costly, and must be acquired gradually, but their purchase must be kept constantly in mind.

BINDING.

During the past year, 1401 books have been bound, at a cost of $1,149.34, or at an average cost of 82 cents per volume. Our binding has been done by two firms, one in St. Louis and another in Jacksonville, Illinois. The work has been for the most part satisfactory. The average price paid per volume is higher than the contract price paid three years ago, but the work at that time was entirely unsatisfactory. The sewing

was poor, the leather was inferior, and the finishing was intolerably bad. In my opinion a university library should bind its books more permanently than a public library, where such a large proportion of the volumes are circulated for a few months, and then are removed from the library. We have scarcely any books of this character. Almost every book that is worth binding at all is worth binding well. This is particularly true of the scientific journals which are full of valuable plates. The loss of a single plate may destroy the usefulness of the entire volume, and it is necessary therefore to have every plate securely fastened in, to have strong sewing, and the covering, of leather or cloth, of the best quality obtainable.

It will be necessary during the coming year to rebind a very large number of books, the bindings of which are now wearing out. The fact that our library consists almost wholly of new books has made the bill for rebinding during the past years a very small one, but this bill will be from year to year increasingly large, as every year the bindings of a larger number of books will fall to pieces.

In my opinion, after the appropriation for serial publications, the appropriation for binding should stand next in order of importance. We cannot afford to cut this appropriation at all, for it is of quite as much importance that the books which we have should be well taken care of as that we have new books.

ORDERS AND ACCESSIONS.

During the past year 4842 volumes have been purchased, at a cost of $12,937.36. 3001 volumes have been received by gift, and 229 volumes, which have belonged to the Library for some time but had not been accessioned, have been formally added to the library. The total additions for the year are therefore 8072 volumes. This does not include the collection of books presented to the library by the Hon. Geo. G. Vest, amounting to about 900 volumes, and including all the pub-

lications on the government collected by him during his long and honorable service in Congress. Owing to lack of the shelf space, we have been unable as yet to accession and shelve the volumes, but we expect to do so within a short time. This total figure does not include also several hundred volumes of unbound periodicals which have been received and paid for, but have not yet been bound and accessioned. The number of bound volumes now in the Library, excluding duplicates is 52,085.

There has been no change in our policy of purchase during the past year. We have bought the majority of our American books through a house in Chicago, and have been entirely satisfied with the prices given us. The rules adopted by the American Publisher's Association have prevented us from securing anything like the discounts we formerly received on American books, but the discounts given us are as high as those received by any other library, and we must perforce be satisfied.

As an experiment we have been purchasing a considerable number of our foreign books directly from houses in London, Paris and Leipzig. The experiment does not seem to have been an entire success, but has not been continued for a long enough period to allow me to speak with definiteness as to future policy.

We are receiving a large and constantly increasing amount of valuable publications in exchange for the University of Missouri Studies. Within the two or three years I feel very confident that the value of the material received annually will be nearly if not quite as great as the cost of getting out the Studies. Nothing has done so much, in my opinion, to add to the prestige of the University as the publication of these Studies. We are sending them to every university of considerable importance, to all the large libraries, and to all the important scientific, literary and historical societies, both at home and abroad.

Scarcely a day passes but that I receive either packages of books and pamphlets sent in exchange, or notification of new exchanges. I trust the Board will see its way clear to carry on indefinitely the publication of the Studies.

THE CATALOGUE.

I take great pleasure in reporting that very satisfactory progress has been made on the catalogue during the past year. All of the library has been catalogued except the books in Chemistry and Law. These we hope to finish before the opening of the next university year, or soon thereafter. I do not mean to imply that on that date or any other the catalogue will be finished. This is a condition that will never obtain so long as the library continues to grow. As soon as we have finished the classes of books mentioned, we shall undertake a considerable amount of analytical cataloguing, reserved until this time as secondary in importance to a complete record of all our books.

During the past year we have catalogued the books in Greek, Latin, Biography, Travels and History, and the department libraries of the Latin and Romance literature, Classical Archaeology, Geology, Engineering, Medicine, Horticulture, Entomology and Agriculture. The work has gone more slowly than we could have wished, largely on account of the fact that the books on which we have been working have been scattered all over the campus, and it has been impossible to have them transported to and from the library as rapidly as they were needed. This has caused great annoyance and loss of time to the cataloguing staff. This emphasizes the great need which the library has for a special janitor or boy to do low grade manual labor, of which there is a great deal about the library. A very considerable amount of the time of the Librarian and of the head of the cataloguing department has been taken up in work which could be done quite as well by a boy at $20 a month.

A large amount of time has been spent during the past year in preparing cross references between related subjects in the catalogue. Some time also has been given to re-classification. At the suggestion of Professor Trenholme the books in Church History and in Constitutional History have been transferred from Religion and Political Science respectively, to the general classification of History. The books in pure Sociology have been subdivided in accordance with a scheme prepared by Dr. Ellwood. All books in Civil and Mechanical Engineering have been classified in accordance with a scheme devised by the Engineering Department of the University of Illinois. Electricity and Electrical Engineering have been re-classified in accordance with a scheme prepared by the Librarian, with the assistance of Professors Stewart and Shaw. The classification in Botany has been elaborated and made to conform as far as possible to that adopted in the International Catalogue of Scientific Literature.

A large number of analytical cards have been written for several important series of books, among which are Arber's English Reprints, Dodsley's Old English Plays, Early English Text Society, Deutsche National Litteratur, Biblioteca de Autores Espanoles, The Societe des Anciens Textes Francais, The Special Reports on Educational Subjects, published by the London Board of Education, Johns Hopkins Studies, Lord's Beacon Lights of History, and Marquardesen's Handbuch des oeffentlichen Rechts.

In addition to the above we have purchased printed cards for the Old South Leaflets, The Contributions to Knowledge and the Miscellaneous Collections of the Smithsonian Institution, and the Circulars of Information on the United States Bureau of Education.

There have been written during the year 26,812 cards, representing 15,511 volumes, or 7,372 titles. The term title is used here to indicate any individual book, whether in one or

one hundred volumes. The Deutsche National Litteratur is reckoned as one title, although several hundred cards were written for it.

Two very important questions relating to the cataloguing department are now under consideration. After a number of conferences with the different departments concerned, I have decided to recommend to the Board that provision be made for duplicate catalogues of the books in Engineering, in Agriculture, in Horticulture, Botany and Entomology, and in Medicine. It is a matter about which there is at least a considerable question whether these libraries will ever be brought into the main library building, when such a structure is erected. Even if the consolidation should be effected, such catalogues would be of great service to the departments. I trust that the Board will see its way clear to order this work done.

The Library of Congress has for several years been printing cards for all newly copyrighted books, and for books now in their collections re-catalogued by them. It is possible to purchase these cards at a very small figure. I have not as yet seen my way clear to use these cards, but it is my belief that the experiment is one that we ought to try. The testimony of most of those who have tried this plan is that the actual saving is not very large, but that the gain in clearness, uniformity and fullness of cataloguing is very considerable.

TEXT BOOK LIBRARY.

At the suggestion of Professor Trenholme, and after a series of conferences with the departments concerned, it was determined to begin the collection of the more important text books in the subjects required for admission to the University. It is planned to have these books kept in a separate collection, and to make them available to the students of the Summer School, to the students in the classes in Pedagogy, and any others interested.

A circular letter addressed to the various publishers of educational books, asking for donations for this purpose met with a ready response, and while by no means all the books have as yet been received, we have at present 150 books in this collection.

MODEL HIGH SCHOOL LIBRARY.

I regret to say that the Model High School Library, collected about a year ago, has not been an entire success. The schools with which I communicated throughout the state did not seem to be sufficiently anxious to see the collection to pay the freight on it. It was however sent to four towns. Another effort will be made to push this collection and the work it represents, at the beginning of the next university year.

SUMMER COURSE IN LIBRARY ECONOMY.

There has been a large and increasing demand made upon the Librarian to offer a course in the Summer School, designed to prepare teachers for the better care of their school libraries, and it has been determined to offer such a course during the coming summer.

No attempt will be made to establish a library school, or to fit persons to be professional librarians. Our only endeavor will be to make the school libraries more efficient instruments of instruction.

NEW BUILDING.

Greatly to the regret of all concerned, the Forty-Second General Assembly found itself unable to make the appropriation necessary to begin the construction of a new library building. I cannot speak too strongly of the necessity of such a structure, and the great importance of a very strenuous effort to secure it from the next session of the Assembly. If we try to secure

the sum of $60,000 for this purpose, and I think that the present determination of the Board in this matter is an eminently wise one, it will hardly be possible to secure this sum in less than three appropriations. This means that it will be eight years at the very earliest before we can occupy the building.

What we are to do in the mean time I confess I do not see. Some temporary expedient must be adopted very soon. Our present reading room space is absolutely inadequate, our stacks are full and overflowing. We have no space whatever for dozens of activities which should be carried on in a modern university library. When the Gymnasium is erected, it will be possible, as a temporary expedient, and as such only, to transfer the book stacks to the basement underneath the reading room, and to use the entire floor now occupied by the reading room and the stacks for a reading room. This will give temporary relief, but it will be very inconvenient and unsatisfactory.

Respectfully submitted,

J. T. GEROULD, Librarian.

PERIODICALS RECEIVED BY GIFT OR EXCHANGE.

American Economist.
American Federationist.
American Journal of Education.
Anales de la Universidad de Buenos Aires.
Anales de la Universdad de Chili.
Annales de l'Université de Lyon.
Annales du Midi.
Atti del R'Istituto Veneto.
Automobile Magazine.
Bulletin de la Société des Naturalistes de Moscou.
Bulletin of the American Museum of Natural History.
Bulletin of the Department of Labor.
Bulletin of the Philosophical Society of Washington.
Bulletin of the University of the State of New York.

Bulletin of the University of Wisconsin.
Catholic University Bulletin.
Columbia University Quarterly.
Consular Reports.
Contributions to Knowledge of the Smithsonian Institution.
Criterion.
German American Annals.
Hartford Seminary Record.
Hermathena.
Iowa Journal of History and Politics.
Journal of the American Medical Association.
Journal of the Elisha Mitchell Scientific Society.
Labour Gazette of Canada.
Law Notes.
Memoirs and Proceedings of the Manchester Literary and Philosophical Society.
Memoirs of the National Academy of Science.
Mining Journal.
Miscellaneous Collections of the Smithsonian Institution.
Missouri School Journal.
Monthly Bulletin of the Bureau of American Republics.
Monthly Summary of Commerce and Finance.
Monthly Weather Review.
Musèe social, Annales et Memories.
Official Gazette of the U. S. Patent Office.
Proceedings and Transactions of the Royal Society of Canada.
Proceedings of the Academy of Natural Sciences of Philadelphia.
Proceedings of the American Academy of Arts and Sciences.
Proceedings of the American Philosophical Society.
Proceedings of the Boston Society of Natural History.
Proceedings of the Indiana Academy of Science.

Proceedings of the Philosophical Society of Glasgow.
Publications of the Field Columbian Museum.
Publications of the University of Pennsylvania.
Queen's Quarterly.
St. Louis Medical Review.
Southern Education.
Star of Hope.
Summary.
Sunset.
Technology Review.
Transactions of the Academy of Science of St. Louis.
Transactions of the Kansas Academy of Science.
Transactions of the Wisconsin Academy of Science.
Travaux scientifique de l'Université de Rennes.
University Chronicle.
University Record.
University of California Studies.
University of Illinois Studies.
University of Nebraska Studies.
University of Toronto Studies.
Vanderbilt University Quarterly.
Verhandlungen der Naturforschende Gesellschaft in Basel.
Wilson Bulletin.
Woman's Home Companion.
Yale Alumni Weekly.

GIFT LIST.

	Books	Pamphlets
Allyn & Bacon	4	
American Academy of Arts and Sciences	2	
American Museum of Natural History		1
American Protective Tariff League	1	23
American Federation of Labor	1	
Amherst College Library	1	

Appleton, D. & Co.	38	
Association of Collegiate Alumnae		2
Balch, E. S.	1	
Basel (Switzerland) Naturforschende gesellschaft		2
Barrett, Jay Amos	2	
Berlin, Königliche Sternwarte		11
Bern (Switzerland) Schweizerische naturforschende Gesellschaft		1
Beta Theta Pi Fraternity	1	
Boston Public Library	1	1
Boston Society of Natural History	1	
Bowdoin College Library	1	
Brooklyn Public Library		2
Bryn Mawr College Library		2
Buenos Aires (Argentine Republic) Universidad	15	
Buffalo Public Library		1
Bureau of American Ethnology	2	1
California, Bureau of Labor Statistics		2
California, Comptroller	1	
California, State Treasurer	1	
Canada, Geological Survey		4
Canada, Labor Department	3	
Carlisle (Penn.), Indian Industrial School		1
Carnegie Library (Pittsburg, Pa.)		2
Catholic University of America	1	3
Century Association of New York	1	
Chicago, Civil Service Commission	1	
Chicago, Comptroller	1	
Chicago, Department of Public Works	1	
Chicago, Public Library		35
Chicago University		202
Chile, Universidad	1	

Cole, George Watson		1
Colorado, Bureau of Labor Statistics	2	
Colorado, Treasury Department		1
Colorado University		2
Columbia University	20	2
Connecticut, Comptroller	1	
Connecticut, Historical Society	1	
Cornell University		25
Crescent Democratic Club, Baltimore, Md.		1
Dale, Sir David		2
Denison University, Scientific Laboratories		1
Detroit Public Library	3	
Devine, E. T.	7	
Dietzgen, Eugene	1	
Drexel Institute		2
Ehrlich, F.		1
Enoch Pratt Free Library		1
Field Columbian Museum		1
Georgia Geological Department	1	
Glasgow (Scotland), Philosophical Society	26	
Goodsell Observatory		2
Graff, Hofrat von		1
Greene, A. M.	11	
Grenoble (France), Universite	1	
Gridley, Albert L.		1
Harris, William T.	21	
Harvard University Library	3	95
Heath, D. C. & Co.	13	
Hinds & Noble	18	
Holt, H. & Co.	22	
Illinois, Board of Arbitration	3	4
Illinois, Board of Health	2	1
Illinois, Bureau of Labor Statistics	1	
Illinois, State Laboratory of Natural History		2

Illinois University	14	4
Indiana, Academy of Science	3	
Indiana, Department of Charities and Corrections		3
Indiana, Labor Commission		3
Iowa, Geological Survey	1	
Iowa, Labor Commissioner		2
Iowa, Railroad Commission	1	
Iowa, State Historical Society	1	
Jena (Germany), Universitäts Bibliothek		66
John Crerar Library		3
Johns Hopkins University	1	27
Jones, Dr. J. C	7	
Kansas City, Comptroller		1
Kansas, Board of Agriculture	1	
Kansas, Labor Bureau	3	3
Kansas, Railroad Commission	1	
Kansas, State Historical Society	1	1
Kansas, University of	4	1
Kasan (Russia), l'Observatoire Astronomique	13	
Leiden Universiteit		2
Leland Stanford Jr. University		6
Library Bureau	1	
Lille (France), Bibliotheque Universitaire		1
Loeb, Dr. Isidor		1
London Conciliation Board		9
Loubat, Duc de	2	1
Louisiana, Bureau of Labor		1
Louisiana, Railroad Commission		1
Louisiana, State Board of Health		1
Lyon (France), Bibliotheque de l'Universite	20	1
Lytle, John J		1
McClenny, A. M	4	
Macnie, John	1	

Macmillan & Co	27	
Maine, Bureau of Statistics	1	
Maine, University of		2
Marburg (Germany), Universitat		54
Martin, Alexander	50	1
Maryland, Bureau of Statistics		2
Massachusetts, Auditor	1	
Massachusetts, Board of Education	1	
Massachusetts, State Board of Arbitration	1	
Massachusetts, State Board of Charities	1	
Merchant's Association of New York		1
Meyer, Dr. Max	4	
Michigan, Bureau of Labor	1	
Michigan, Commissioner of Railroads	23	
Michigan, State Board of Health	1	
Michigan, State Normal College	7	
Michigan, University of	1	1
Minnesota, Auditor	1	
Minnesota, University of	40	25
Missouri, Botanical Garden	1	
Missouri, Bureau of Geology and Mines	2	4
Missouri, Insurance Department	1	
Missouri, Labor Commission	1	
Missouri, School for Deaf		2
Missouri, State of	797	
Missouri, State Historical Society	12	
Missouri, State Treasurer	2	
Montana Historical and Miscellaneous Library	1	
National Business League		1
National Capital Celebration Committee	1	
National Civic Federation		4
National Reciprocity League		6
Nebraska, Auditor of Public Accounts		1
Nebraska, Superintendent Public Instruction	1	1

Nebraska University		2
New England Society of New York		4
New Hampshire, Bureau of Labor	1	
New Jersey, Geological Survey	3	
New York (City), Department of Education		2
New York (City), Federation of Churches		2
New York (City), Produce Exchange	1	
New York (State), Board of Charities		2
New York (State), Board of Health	2	
New York (State), Board of Mediation and Arbitration		1
New York (State), Chamber of Commerce		3
New York (State), Civil Service Commission	1	
New York (State), Comptroller	1	
New York (State), Factory Inspector	3	
New York (State), Labor Department	5	3
New York (State), Library	14	65
New York (State), Lunacy Commission	1	
New York (State), Reformatory at Elmira	1	1
New York (State), Treasurer	1	
New York (State), University	9	11
Newberry Library		1
Niederlein, Gustavo		1
North Carolina, Bureau of Labor and Printing	1	
North Carolina, University of		
North Central Association of Colleges, etc		3
North Dakota, Agriculture and Labor		1
Northwestern University		23
Oberlin College	1	
Ohio, Board of Arbitration		4
Ohio, Charities and Corrections Department		2
Oregon, State Treasurer	1	
Otero, Manuel B		1
Paris (France), Bibliotheque de l'Universite		8

Pennsylvania, Bureau of Internal Affairs....	5	
Pennsylvania State Library.....		1
Pennsylvania, University of.....		73
Princeton University	1	36
Rand, McNally & Co.....	1	
Rennes (France), Universite.....		3
Rhode Island, Board of Education.....	1	
Rhode Island, Railroad Commission.....	2	
Rhode Island, State Board of Agriculture....	1	
Rio Janerio, Bibliotheque Nationale de.....		14
Royal Observatory (Cape Town).....	25	
St. Louis, Academy of Science.....		2
St. Louis, Auditor.....	1	
St. Louis Mercantile Library.....	1	1
St. Louis Provident Association.....		3
St. Petersburg, Imperial University	4	12
Santa Fe Railroad.....	1	
Schweitzer, Paul	10	
Seattle (Wash.), Civil Service Commission..		1
Sedalia (Mo.), Public Library.....		1
Shands, Dr. H. A.....		1
Silver, Burdett & Co.....	19	
Smith, Eleneus	1	
Smith, G. Hutchinson.....	1	
Smith, Hon. Wm. Alden.....		1
Smithsonian Institution		14
Society for Philosophical Inquiry.....		1
Society for the Promotion of Engineering Education		1
South Dakota, Superintendent Public Instruction	1	
South Dakota, Treasurer.....		1
Spalding, F. P.....	3	
Stechert, G. F.....	2	

Stephens, E. W.	1	
Strassburg (Germany), Universitäts Bibliothek		23
University Club (New York)	1	
Tachkent (Russia), Observatoire Astronomique et Physique	1	
Switzler, Irvin	5	
Texas University		2
Toronto University Library		6
Toulouse (France), Bibliotheque de l'Université	1	1
Trenholme, N. M.	3	
Union Club (New York)	1	
United States, Bureau of Education	1	
United States, Civil Service Commission	4	1
United States, Coast and Geodetic Survey	3	
United States, Commissioner of Labor	3	
United States, Department of Agriculture	1	
United States, Department of the Interior	1	
United States, Director of the Mint	2	
United States, Government	126	
United States, Industrial Commission	6	
United States, Library of Congress	1	6
United States, Interstate Commerce Commission	2	
United States, Treasury Department	2	
United States, War Department	1	1
Uruguay, Bureau of International Exchange	2	2
Vanderbilt University		4
Varsovie (Russia), Observatoire Astronomique		1
Vermont, State Library	11	11
Vermont, State Treasurer	1	
Vest, Geo. G.	915	27

Virginia, University of		5
Washington, Philosophical Society	1	
Washington University		1
West Point Military Academy		1
Western Reserve University		1
Williams College		1
Wisconsin, Geological Survey	1	9
Wisconsin, State Library Commission		2
Wisconsin, State Superintendent of Education	1	1
Wisconsin, State Tax Commission	1	
Wisconsin, University of	1	55
Würzburg (Germany), Universität		38
Yale Observatory		1
Yale University		17

IX. FINANCIAL STATEMENT.

REPORT OF THE SECRETARY OF THE BOARD OF CURATORS AND PROCTOR OF THE UNIVERSITY.

To the President of the University of Missouri:

Sir:—I have the honor to submit the following report as Secretary of the Board of Curators and Proctor of the University.

INCOME AND EXPENDITURES.

For a statement of the income and expenditures of the University during the two years ending December 31, 1902, reference is made to the Biennial Report of the Curators covering that period.

NEW BUILDINGS AND EXTENSIONS.

The new buildings which were in course of construction when my last report was made have been completed. Their cost, including heating system, plumbing, wiring and gas fitting, has been as follows:

Dairy and Live Stock Judging Bld'gs,	$37,405	
Power house for same	2,625	$40,300.00
Horticultural Building	36,170	
Power house for same	1,680	37,850.00
Medical Building		39,470.00
Girls' Dormitory		34,000.00
Engineering Laboratory		17,920.00

Besides the buildings named, the following additions, extensions and improvements are approaching completion:

Remodeling and improvement of the Adolphus Busch clinic (the money being donated by Mr. Adolphus Busch)	$3,500.00
Extension of Electric Light Plant	3,000.00
Extension of Central Power House	4,472.00
Deep Well and Reservoir	4,867.00
Refrigerating Plant	2,550.00

UNIVERSITY ENDOWMENT.

At the general election in November, 1902, a constitutional amendment was adopted providing that the certificates of indebtedness belonging to the public school fund and the seminary fund shall be renewed as they mature for such period of time and for such rate of interest as may be provided by law. The Forty-Second General Assembly passed an act providing that each certificate as it matures shall be cancelled and a new certificate issued payable twenty years after the date thereof, bearing the same rate of interest as the maturing certificate, the interest to be payable semi-annually on the first day of January and July of each year. The following is a list of the University endowment certificates with the amount and date of expiration of each:

1. One certificate, due July 2, 1903,	$ 242,000.00
2. One certificate, due November 1, 1903,	5,000.00
3. One certificate, due January 22, 1904,	100,000.00
4. One certificate, due January 30, 1904,	5,000.00
5. One certificate, due April 19, 1904,	35,000.00
6. One certificate, due April 2, 1905,	5,000.00
7. One certificate, due February 25, 1906,	5,000.00
8. One certificate, due January 1, 1908,	5,000.00
9. One certificate, due March 1, 1908,	6,000.00
10. One certificate, due December 15, 1908,	5,000.00
11. One certificate, due May 15, 1909,	5,000.00

12. One certificate, due July 1, 1911, ...	122,000.00
13. One certificate, due July 1, 1911, ...	5,000.00
14. One certificate, due April 15, 1913, ...	2,000.00
15. One certificate, due May 15, 1913, ...	5,000.00
16. One certificate, due April 2, 1915, ...	22,881.19
17. One certificate, due April 9, 1915, ...	5,000.00
18. One certificate, due April 1, 1916, ...	3,000.00
19. One certificate, due July 1, 1918, ...	6,000.00
20. One certificate, due January 2, 1922, ...	3,000.00
21. One certificate, due November 26, 1922, ...	1,000.00
22. One certificate, due April 1, 1941,.....	646,958.23
	$1,239,839.42

All of these certificates bear interest at the rate of five per cent per annum excepting that for $122,000 which bears interest at the rate of six per cent.

Certificates numbered 1, 2, 4, 5, 6, 7, 8, 10, 11, 13, 15, 16, and 17; amounting to $349,881.19, are derived from the proceeds of sales of Agricultural College lands, and the income from same is appropriated, three-fourths to the departments at Columbia and one-fourth to the School of Mines. Certificates numbered 3 and 12, amounting to $222,000, are derived mainly from the proceeds of sales of seminary lands donated by Congress in 1820, and the income from same is appropriated wholly to the departments at Columbia. Certificates numbered 19, 20 and 21, amounting to $10,000, are derived from miscellaneous sources, and the income from same is appropriated wholly to the departments at Columbia. The donation of Hon. Jas. S. Rollins for the purpose of establishing six annual scholarships of fifty dollars each is covered by certificate number 9, $6,000. Certificate number 14, $2,000, is derived from the sale of lands donated by Phelps county to secure the location of the School of Mines at Rolla, and the income from same is appropriated wholly to that department. Certificate number 18, $3,000, is

derived from payments into the State Treasury under the Yeater Free Scholarship Act, approved April 1, 1895, the income from which is appropriated, four-fifths to the departments at Columbia and one-fifth to the School of Mines. Certificate number 22, $646,958.23, is derived from the direct tax refunded by the Federal Government to the State of Missouri, the income from which is payable, four-fifths to the departments at Columbia and one-fifty to the School of Mines.

APPROPRIATIONS.

The first direct appropriation made to the University by the General Assembly of Missouri was that of $10,000 by act approved March 11, 1867, "for the purpose of rebuilding the house of the president of the State University, repairing the University building damaged on account of its military occupation during the war, and putting a new and substantial fence around the college campus." By the second section of the same act there was "set aside and appropriated, annually, for the support of the State University of Missouri, out of the revenue of the State, after first deducting therefrom the one-fourth of the revenue for the public school fund, one and three-quarter per cent of such balance of the State revenue." This was a continuing appropriation and under the provisions of the act the following amounts were paid to the University out of the State treasury up to the time when the constitution of 1875 went into effect:

April 3, 1868, ...	$11,388.09
April 6, 1869, ...	11,483.88
April 4, 1870, ...	12,003.05
April 5, 1871, ...	12,767.86
April 6, 1872, ...	13,412.44
April 18, 1873, ...	11,158.80
April 13, 1874, ...	13,375.45
April 26, 1875, ...	16,317.49
January 21, 1876, ...	17,996.86
April 10, 1876, ...	16,355.99

Under the constitution of 1875 appropriations were good for only two years from the date when made, and the biennial appropriations from that time forward, to the departments at Columbia, not including interest on endowments, were as follows:

April 6, 1877, Maintenance, ...	$ 33,500.00
March 24, 1879, Maintenance, ...	39,000.00
March 24, 1881, Maintenance, ...	49,634.00
April 2, 1883, Maintenance,.....	54,840.00
Payment of debts, ...	23,000.00
March 23, 1883, Enlargement and repairs, ...	100,000.00
March 26, 1885, Maintenance, ...	62,810.00
April 2, 1885, Completion and furnishing new addition	25,000.00
March 22, 1887, Maintenance, ...	65,300.00
Law library, ...	3,000.00
Elevator and fire apparatus, ...	4,300.00
Electric light plant, ...	2,761.00
Addition to campus, ...	3,100.00
Club house, ...	20,000.00
May 18, 1889, Maintenance, ...	67,000.00
Museum specimens, ...	623.83
March 25, 1891, Maintenance, ...	88,983.00
March 24, 1892, New buildings, ...	236,577.00
March 27, 1893, Walks and grading,.	14,000.00
Main building, ...	250,000.00
March 25, 1895, Maintenance, ...	46,800.00
Equipment of main building,....	23,500.00
Armory and gymnasium, ...	7,500.00
General library	6,000.00
Special library, ...	4,000.00
Law library, ...	5,000.00
Ficklin property, ...	3,500.00

New boilers and repair of heating plant, ...	2,500.00	
Granitoid walks and grading drill grounds, ...	5,000.00	
Improvement of students' boarding club, ...	4,000.00	
Laboratories, ...	15,000.00	
Professor of Physical Culture,..	2,400.00	
Inclosing and improving athletic grounds, ...	1,300.00	
Summer School, ...	4,000.00	
Contingent fund, ...	2,500.00	
April 23, 1897, Maintenance, ...	57,000.00	
New club house, ...	33,000.00	
Improvements and repairs, ...	10,000.00	
May 13, 1899, Maintenance, ...	95,000.00	
Parker Hospital, ...	10,000.00	
Libraries, ...	10,000.00	
Laboratories, ...	15,000.00	
Furnishing new club house, ...	1,000.00	
Electric Light plant,.....	2,000.00	
Student labor, ...	1,200.00	
Summer Schools, ...	4,000.00	
New Chairs, Domestic Economy, Architecture, Anatomy, and Drawing, ...	4,500.00	
April 17, 1901,		
From the General Revenue Fund—		
Maintenance, ...	148,700.00	
Summer School of 1901,.....	4,000.00	
Dairy Husbandry, ...	5,000.00	$157,200.00

From the Collateral Inheritance Tax Fund—		
Building and Laboratories for Live Stock Judging, Dairy Instruction and Veterinary Science, ...	40,000.00	
Medical building and equipment,	40,000.00	
Girls' Dormitory and furnishings	35,000.00	
Building for Horticulture, Entomology, etc., ...	40,000.00	
Engineering Laboratory and Equipment	40,000.00	
Contingent Fund, ...	3,000.00	
Libraries ($5,000 for Law), ...	25,000.00	
Laboratories, ...	25,000.00	
Improvements and repairs,.....	12,500.00	
Summer School of 1902, ...	4,000.00	
Electric light plant, etc.,.....	3,000.00	
Granitoid Floor in basement of Academic Hall, etc., ...	4,000.00	
Furnishing and heating new club house, ...	2,500.00	
World's Fair at St. Louis,.....	2,000.00	
Restoration and preservation of Museum specimens, ...	1,000.00	
Cold storage for Hospital, etc., ..	5,000.00	
Water plant and fire protection,..	8,000.00	
New boiler and repair of heating plant, ...	4,000.00	
Equipment and maintenance of Hospital, ...	6,000.00	
Student labor, ...	1,200.00	
Experiment Station, ...	3,500.00	$304,700.00
		$462,400.00

April 11, 1903.

From the General Revenue Fund—		
Maintenance, ...		$148,700.00
From the Collateral Inheritance Tax Fund—		
Maintenance, ...	106,550.00	
Summer School, ...	12,000.00	
Payment of claim of H. W. Kolkmeyer & Co., against the State University for sewerage work, ...	850.20	
Libraries, ...	25,000.00	
Law library, ...	5,000.00	
Libraries of History, Economics, Public Law and Sociology, ...	5,000.00	
Laboratories, ...	25,000.00	
Athletics and sanitation,.....	7,500.00	
Contingent Fund, ...	5,000.00	
Improvement of heat, water, light and power plant, ...	3,500.00	
Maintenance, betterment and equipment of Parker Memorial Hospital, ...	12,300.00	
Furnishing Read Hall and salaries of employees, ...	8,000.00	
Repairing Benton Hall with view of better sanitation,.....	4,000.00	
Student Labor, (not less than 15 cents per hour),.....	5,000.00	
Fellowships, ...	4,000.00	
Academic Department, ...	12,500.00	
Law Department, ...	1,466,00	
Department of Education, ...	7,500.00	
Medical Department, ...	12,000.00	

Department of Engineering, ...	14,300.00	
College of Agriculture and Experiment Station, ...	47,600.00	
Granitoid walks and grading, ...	8,000.00	
Publications and advertising, ..	5,000.00	
Gymnasium and equipment, ...	69,200.00	
Physics building and equipment,.	75,000.00	
Veterinary Surgery and Animal Hospital and equipment, ...	15,000.00	
Additions to Chemical Laboratory	25,000.00	
Chair of Homeopathy.....	3,000.00	$524,266.20
		$672,966.20

In addition to the sums above named, each General Assembly, beginning with that of 1891, has made a biennial appropriation of $5,000 for the University Cadets. All of said appropriations except that made by the Forty-Second General Assembly, were paid out of the General Revenue fund. The appropriation for the current biennial period is payable out of the Collateral Inheritance Tax Fund.

Respectfully submitted,

J. G. BABB,

Secretary of the Board of Curators and Proctor.

X. PUBLICATIONS AND COLLECTIONS.

The Publications and Collections mentioned below include only those made from June 1, 1902, to June 1, 1903.

JOHN S. ANKENY, JR.:

Constructive Design (*Annual Report of the Western Drawing Teachers' Association*, 1902).

The Legacy of Art—President's Address (*Annual Report of the Western Drawing Teachers' Association*, 1903).

EMERSON BASSETT:

Some Recent Spanish Texts (*School Review*, November, 1902).

Recent Spanish Plays (*School Review*, April, 1903).

Theuriet's le Mariage de Gerard, with Introduction and Notes (*W. R. Jenkins*, New York).

R. M. BIRD:

A Convenient Gas Generator (*American Chemical Journal*, December, 1902).

Bordeaux Powder (*Circular Missouri Agricultural Experiment Station*, May, 1903).

Why a Flame Emits Light—The Development of the Theory (*Popular Science Monthly*, June, 1903).

HENRY MARVIN BELDEN:

Perfective in Old English: bringan and gebringan (*Englische Studien*, Bd. 32).

PAUL V. C. BAUR:

Eileithyia (*University of Missouri Studies*, Volume I, No. 4).

WILLIAM GEORGE BROWN:

Smith and Hall's The Teaching of Chemistry and Physics in the Secondary School (*Journal of the American Chemical Society*, April, 1903). Miley's Color Photography (*Popular Science Monthly*, April, 1903).

ARTHUR BYRON COBLE:

The Relation of the Quartic Curve to Conics. (*Transactions of the American Mathematical Society*, Vol. IV, No. 1).

JOHN WALDO CONNAWAY:

Milk Fever, Its Cause and Treatment (*Bulletin of the State Board of Agriculture*, November, 1902).

A Report on the Foot and Mouth Disease (*Bulletin of the State Board of Agriculture*, February, 1902).

WINTERTON C. CURTIS:

The Life History, the Normal Fission, and the Reproductive Organs of Planaria Maculata (*Proceedings of the Boston Society of Natural History*, Vol. XXX, No. 7).

Crossobothrium laciniatum and Developmental Stimuli in the Cestoda. (*Zoological Bulletin*, July, 1903).

B. M. DUGGAR:

Collection of the Fleshy Fungi of Columbia and Vicinity.

CLARENCE HENRY ECKLES:

Dairy Husbandry (*Bulletin No.* 56, *Missouri Experiment Station*).

Raising Calves With Skim Milk (*Bulletin* No. 57, *Missouri Experiment Station*).

Feeding Dairy Cows (*Bulletin* No. 58, *Missouri Experiment Station*).

Bitter Flavors in Butter and Milk—Their Cause and Prevention (*Proceedings of Missouri State Dairy Association*).

Some Problems of Hand Separator Cream (*Proceedings of Kansas State Dairy Association*).

CHARLES A. ELLWOOD:

The Condition of the Alms Houses of Missouri (*Bulletin of the University of Missouri,* January, 1903).

The Condition of the County Jails of Missouri (*National Bulletin of Charities and Corrections,* February, 1903).

Charity Organizations for Small Cities (*Proceedings of the Missouri Conference of Charities and Corrections,* 1902).

What Effort Can Be Made in a State to Improve Conditions? (*Proceedings of the National Conference of Charities and Corrections,* 1903).

Collections of Indian Antiquities, consisting of 3,000 arrow heads, 400 spearheads, 200 knives, 50 axes, and numerous other things (donated by Mr. B. R. Graham, Mineola, Mo.).

CLARENCE A. GOOD, M. D.:

An Experimental Study of Lithium (*American Journal of the Medical Sciences*).

ARTHUR M. GREENE, JR. (with H. W. Spangler and S. M. Marshall):

Elements of Steam Engineering (*Text Book*).

WALTER LAFAYETTE HOWARD:

Plant Propagation (For Use in the Public Schools).

CLARENCE MARTIN JACKSON:

Anatomy for the Practitioner (*Read at the Fifty-third Annual Meeting of the American Medical Association*).

Structure of the Corpora Cavernosa in the Domestic Cat (*American Journal of Anatomy,* Vol. II, No. 1).

GEORGE LEFEVRE:

A New Method of Embedding Small Objects (*Journal of Applied Microscopy*, Vol. V, No. 12).

WILLIAM GWATHMEY MANLY:

Ithaca or Leucas? (*University of Missouri Studies*, Volume II, No. 1).

CURTIS FLETCHER MARBUT:

Evolution of the Northern Part of the Lowlands of Southeastern Missouri (*University of Missouri Studies*, Volume I, No. 3).

ALEXANDER MARTIN:

Selection of Cases on Equity Jurisdiction (*E. W. Stephens, Columbia, Missouri*).

MAX MEYER:

Zur Theorie der Gerauschempfindungen. Zeitschrift fur Psychologie und Physiologie der Sinnesorgane, 31 (4), pp. 232-247. 1903.

RICHARD BISHOP MOORE:

Fifty Specimens of Organic Compounds.

FREDERICK B. MUMFORD:

The Principles of Plant Production: The Seed.

Selecting Dairy Cows (*Missouri Board of Agriculture, Monthly Bulletin*, Volume II, No. 8).

Some Lessons from Cattle Feeding Experiments.

Factors Determining the Birth-weight of Animals (*Bulletin No. 53, Missouri Experiment Station*).

ROLLA R. RAMSAY:

Change of Volume in Clark and Cadmium Cells and Its Relation to Change of Eloctromotive Force Due to Pressure (*Physical Review,* Volume XVI, No. 2).

HERMAN SCHLUNDT (with Louis Kalhlenberg):

Solubility, Electrolytic Conductivity and Chemical Action in Liquid Hydrocyanic Acid (*Journal of Physical Chemistry,* Vol. VI, No. 7).

The Optical Rotating Power of Camphor when Dissolved in Carbon Disulphide, Sulphur Monochloride, Phosphorus Trichloride, and Sulphur Dioxide (*Journal of Physical Chemistry,* Vol. VII).

PAUL SCHWEITZER:

Butter and Butter Substitutes.

GLENN LEVIN SWIGGETT:

What is Romanticism? (*The Sewanee Review,* Vol. XI).

HOWARD BURTON SHAW:

A complete set of different types of high voltage insulators (donated by The Hemingway Glass Company).

A Busch Incandescent Dynamo (donated by Mr. E. W. Stephens).

FREDERICK H. SEARS:

Observation and Elements of Comet b, 1902 (*Perrine*), Laws Observatory, University of Missouri, Bulletin No. 1.

The University of Paris and its Allied Educational Institutions.

About two hundred books and pamphlets collected for the Astronomical Observatory with the co-operation of the University Librarian.

FREDERICK PUTNAM SPALDING:

Over-Development in Engineering Laboratory Courses (*Proceedings of the Society for the Promotion of Engineering Education*, Vol. X, 1902).

JOHN MOORE STEDMAN:

The Chinch Bug. Blissus leucopterus, Say (*Agricultural Experiment Station Bulletin* No. 51, July, 1902).

The Dingy Cut-Worm, Feltia subgothica, Hawth (*American Cultivator*, Boston, July, 1902.

The Wheat Plant Louse, Nectaraphora Cerealis (*American Cultivator*), Boston, June, 1902.

Two Insects Injurious to the Strawberry (*Experiment Station Bulletin*, No. 54).

The Hessian Fly, Cecidomyia destructor, Say (*Annual Report of the Missouri State Board of Agriculture*).

The Wheat Bulb-Worm, Meromyza Americana, Fitch (*Annual Report Missouri State Board of Agriculture*).

The Army-Worm, Leucania unipunctata, Haworth (*Annual Report Missouri State Board of Agriculture*).

The Fall Army-Worm, Laphygma frugiperda, S. & A. (*Annual Report Missouri State Board of Agriculture*).

The Variagated Cut-Worm, Peridroma saucia, Hubner (*Annual Report Missouri State Board of Agriculture*).

OSCAR MILTON STEWART:

The Damped Ballistic Galvanometer (*Physical Review*, p. 158, Vol. XVI, No. 3).

FRANK THILLY:

The Worldview of a Scientist: Ernst Häckel's Philosophy (*Popular Science Monthly*, September, 1902).

Teleology and Intuitionism (*International Journal of Ethics*, October, 1902).

Baldwin's Dictionary of Philosophy and Psychology (*Science*, 1903).

Paulsen's 'Die deutschen Universitäten und das Universitätsstudium' (*Science*, Vol. XV, No. 401).

Kant and Teleological Ethics (*Kant-Studien*) (*Bd.* VIII).

Laphie, Le logique de la volonte (*Philosophical Review*, March, 1903).

Stoerring, Die Erkentnisstheorie von Tetens (*Philosophical Review*, March, 1903).

Wentscher's Ethik (*International Journal of Ethics*, April, 1903).

NORMAN MACLAREN TRENHOLME:

The Risings in the English Monastic Towns in 1327 (*American Historical Review*, Vol. VI, No. 4).

The Right of Sanctuary in England, A Study in Institutional History (*University of Missouri Studies*, Vol. I, No. 5).

GEORGE MASON TUCKER:

Improved Corn Culture (*Circular of Information* No. 17, *of the Experiment Station*).

The following collections have been made: One hundred varieties of corn; sample of building material for stave silos; a wire fence machine; a grain binder; corn harvester; hay rake; mower; ten samples of binder twine; specimen of pure manilla and hemp used in the making of twine; twenty-five samples of soil of the State with description of the same; museum jars of alfalfa grown under various conditions; a collection of antique farm tools and implements; a collection of phosphate rock from Arkansas; a collection of fertilizer ingredients; sample of Peruvian Guano; a collection of potash salts.

HENRY JACKSON WATERS:

Plan of Exhibit for Agriculture at the State Fair and the World's Fair (*Bulletin State Board of Agriculture*, June, 1902).

The Future of Dairying in the Agricultural College (*Bulletin State Board of Agriculture*, November, 1902).

Modern Tendencies in Agricultural Products (*Nebraska State Board of Agricultural Report*).

The Development of the Beef Industry in the East (*Pennsylvania Department of Agriculture Report*).

RAYMOND WEEKS:

Aimer le Chetif (*Publications of the Modern Language Association of America*, Vol. XVII).

Secretary's Report (*Publication of the Modern Language Association of America*, Vol. XVII).

Rippman's Elements of Phonetics, (*Modern Language Notes*, May, 1903).

Correspondence, (*Modern Language Notes*, June, 1903).

JOHN CHARLES WHITTEN:

Das Verhaeltnis der Farbe zur Toetung von Pfirsichknospen durch Winterfrost (*Inaugural-Dessertation*).

Pruning the Peach (*Experiment Station Bulletin*).

Horticultural Study in Europe (*Report of the Missouri State Board of Agriculture*).

UNIVERSITY OF MISSOURI

PRESIDENT'S ANNUAL REPORT

TO THE

BOARD OF CURATORS

1903-1904

Columbia, Missouri
PRESS OF E. W. STEPHENS
1904

UNIVERSITY OF MISSOURI

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BOARD OF CURATORS

1903-1904

COLUMBIA, MISSOURI,

To the Honorable, 1 June, 1904.

The Board of Curators,

University of Missouri.

Gentlemen:—As President of the University of Missouri, I have the honor of transmitting to you Reports for the session of 1903-4 from the Deans of the Academic, Law, and Medical Departments, from the Director of the School of Mines, from the Dean of the College of Agriculture and Mechanic Arts, which includes the Experiment Station and the Department of

Engineering, and from the Dean of the Teachers College. Reports are included from the Chairman of the Committee on Graduate Work, from the Director of the Summer Session, from the Librarian, from the Secretary of the University, from the Director of the Gymnasium, and from the Commandant of Cadets. The statistics, if carefully compiled, will show the directions in which the University is moving. The pamphlet closes with a list of the publications of teachers in the University, issued since 1 June, 1903.

In presenting to you this Report at the close of the thirteenth year of my service as President, I desire to submit some statistics of a general nature pertaining to the whole University.

Total number individual students 1,649
Number at Columbia 1,455
Number at Rolla 194

COUNTIES REPRESENTED IN THE UNIVERSITY (INCLUDING ST. LOUIS CITY).

(*a*) *Columbia*:
Counties represented 107
Counties not represented 8
(*b*) *Rolla*:
Counties represented 34
Counties not represented 81

STATES, TERRITORIES, AND FOREIGN COUNTRIES REPRESENTED.

(*a*) *Columbia*..... 46
(*b*) *Rolla* 32
Total in whole University (none counted twice) 53

Every session in a growing university has characteristics that set it apart from all other sessions. This is peculiarly true of the session of 1903-4. Let me briefly review some of the things that have rendered it notable.

In the spring and summer of 1903 there were a number of changes in our faculties. In supplying these vacancies you have been exceedingly fortunate in every instance. Therefore, the efficiency of the faculties has been increased. For the first time it is now possible to say that in no university known to me is the general average of efficiency higher than it is now in the faculties of the University of Missouri. The gradual process of reorganizing the faculties without revolution reached in the spring and summer of 1903 under the providence of God, its climax, and wellnigh its completion. Men that shine like stars are not abundant in any faculty, even where the salaries are large. Still less are they to be found in institutions in which the largest salaries for head Professors range from $2,850 to $3,000. But a high degree of efficiency, man by man, in proportion to the scale of salaries, is attainable in any institution that will labor for it long enough and hard enough. This degree of efficiency has been reached in the University of Missouri to an extent that is almost marvelous. It is to be hoped most earnestly that the salaries of all good professors, old in service here, may soon be raised to $3,000, and that for the ablest of the able you may feel justified in going, at an early date, to $3,500. Such faculties as you now have invite hunting on the part of institutions that are willing to pay for our best men more than you are able to pay now. This recommendation is made with the firm conviction that the Board sympathizes with the spirit in which I am writing and is only deterred temporarily by lack of money.

In the spring and summer of 1904, you relieved the intolerable burdens of the President and the heavy burden of the Secretary of the University, by giving the Secretary another assistant and the President the services of a secretary who bears the title and discharges also the functions of an Alumni Recorder. You relieved Professor M. L. Lipscomb of teaching in

the Department of Physics, and made him Superintendent of Buildings and Grounds, Supervisor of Dormitories, and Editor of the Annual Catalogue. This appointment has given great relief and has resulted in better care of your buildings and grounds.

In August, 1904, you engaged Mr. George E. Kessler, Chief Landscape Architect of the World's Fair, to make a complete plan of the Campus as it should be. To this plan you can work as your means permit, year by year, under the supervision of Mr. Lipscomb. The change that has already been wrought in the Campus justifies most abundantly the expenditure of the salary of Mr. Kessler. The Campus ought to be made beautiful. It is an aesthetic sin to allow students to love a campus that is ugly when it can be converted from ugliness into beauty at a reasonable outlay of money.

During the present session the waterworks plant of the University has been completed. A well, eight inches in diameter and nine hundred and thirty-seven feet deep, was driven down to an abundant supply of marvelously pure water. Last summer the reservoir was completed, the pumps installed, and during the spring of 1904 pipes have been laid to all the buildings and grounds of the University. Every building that you own at Columbia, excepting the Observatory alone, is abundantly supplied with pure water from your own plant. The heating system has been put into perfect repair or will be during the coming summer.

All our friends may be justly proud of our exhibit at the World's Fair at St. Louis. Universities older and wealthier may excel us, but it is doubtful whether a better exhibit has ever been made anywhere by any institution of age and resources comparable to ours. In the centre of the exhibit is the original monument erected over the grave of Thomas Jefferson. This monument, as you know, is the property of the University.

Great credit for this exhibit is due to the Chairman, Professor Pickard, and to his able assistants, Professors Loeb, Shaw, and Waters.

Last summer Read Hall was furnished and in September it was formally opened as a dormitory for women. It has been beautifully tinted and furnished. An earnest effort has been made to keep out everything that savored of show or of extravagance, but an equally earnest effort has been made to furnish it with exquisite taste and judgment. Great credit for this is due to Miss Mary Elizabeth Lewis, the Head of the Hall, and to Mr. John S. Ankeney, Jr., Instructor in Freehand Drawing. Every room has been occupied during the entire session and there has been a list of young women waiting for the vacation of rooms. I have seen dormitories that erred through extravagance in furnishings and others that erred through destitution. Read Hall seems to me ideal. In my judgment there is no better dormitory in the country for men or for women. An ideal home has power to set an ideal standard in things that are of importance to the life of students.

The Head of Read Hall, Miss Mary Elizabeth Lewis, is Adviser of Women to the University. You have properly objected to the title "Dean of Women." Under a better title Miss Lewis has the rank and the functions that are generally assigned to a Dean of Women. You are, in my opinion, to be congratulated upon your good fortune in securing her.

The better standard for dormitories set up in Read Hall re-acted immediately upon the dormitories for men. On each floor of Benton Hall, our oldest dormitory for men, you have placed during the present session bathrooms and closets as good as can be found anywhere. All plumbing has been removed from the basement which makes the building safer from a sanitary point of view. The dining-room and serving rooms of Lathrop Hall have been greatly improved. Both of these dormi-

tories for men were placed last summer in charge of Mrs. Julia Watkins, whom you called from the University of Arkansas. By advice of the Dormitory Board you have employed janitors for scrubbing and cleaning these buildings and for service in the rooms of students. This work was formerly done by student labor. Experience shows that the janitors render better service and are not more expensive. All the service now performed in these dormitories by student labor is limited to service in the dining-room of Lathrop Hall, where students from both dormitories get their meals and also a large number of those who have rooms in town. The administration of Mrs. Watkins has been admirable.

In the manner in which it has organized athletics the University of Missouri has, in my opinion stepped ahead of any institution of learning in the Mississippi Valley. Everything connected with athletics from tennis, croquet, and golf, up to football, indoors or outdoors, is under the direction of Professor C. W. Hetherington. He is answerable to the President and the Curators for everything here in the gymnasium and in athletics. Mr. Hetherington is not only an accomplished athlete, but he is also a good scholar and, best of all, he is a man of the highest ethical standards. Under his administration athletics have been turned from a source of degradation, extravagance, and corruption into a means of grace. A spirit of fairness, truthfulness, constancy under defeat, generosity to the vanquished, politeness to opponents even under provoking circumstances, and love of sports for their own sake, has taken possession of the students. You are spending a large amount of money for this service, but you are thereby helping to make your students manly men and womanly women in things physical and also in things social and moral. Contests between class teams have awakened this year great interest here, which is a good sign. The foundation for the new Gymnasium for men will probably be laid during the

coming summer. A large number of athletic fields for the various classes have been set apart.

Perhaps the thing that has pleased friends most in the present session has been the marked growth of a college spirit, better in degree and better in quality. I have been astounded at the evidences of unselfish interest in the good of the University which the students have been manifesting on many occasions and in a variety of ways. In my opinion, education in any institution is in large degree a failure if it do not send students forth generally with a good spirit towards the institution itself, towards the state, the nation, their fellowmen, and their God. Many things have contributed here to the growth of college spirit, notably among which may be mentioned athletics and also the excellent work of the Young Men's Christian Association. It is but fair to say that the teachers and officers of the University have contributed much by work and by encouragement. In respect to college spirit in the faculties and in the students the present session has no parallel in the history of the University.

Let me recite briefly some of the improvements that have been made during the present session in the various Departments.

Graduate School:

The number of students matriculated is about as large as it was last year. No great improvement in this Department in the present year can be claimed except what has come through the improvement of other Departments. In this way there certainly has been improvement and there has been no deterioration in any way. Our failure to make any considerable advance in this Department has been due not to lack of interest on the part of anyone, but solely to the fact that our energies have been absorbed in improving other Departments. The result is bound

to be beneficial to Graduate studies. This University during my administration of thirteen years has conferred the degree of Ph. D., only once. We have sternly refused to cheapen the degree for the sake of conferring it ourselves. In a large number of subjects we are doing as good work as is done anywhere in the country for the first year of graduate study and in a smaller number that is yet comparatively large, we are doing fine work in the second year of graduate study. Wherever we think that our work is not as good as can be found in some other institutions, we say so frankly to the students, and help them to secure scholarships and fellowships elsewhere. In my opinion, undergraduate work can never be made thoroughly efficient until graduate work is well developed. Indeed, the only work that is legitimate in a University is professional work based upon adequate scholastic attainments and that of the Graduate School. Towards these ideals we are struggling, but we can not reach them without the aid of time. We have a number of professors able to give graduate work as deep and as good as is offered anywhere in America if only they could be sufficiently relieved of undergraduate classes.

Academic Department (College of Liberal Arts):

The staff of teachers has been increased in certain subjects that were grievously over-burdened—English, History, Chemistry, Botany, Mathematics. The Mathematical Department has been thoroughly reorganized, which has been the chief improvement in this College. Every chair has been helped by the purchase of additional books or apparatus, or both.

Engineering:

An Assistant Professor has been added in Civil Engineering, making a staff of one Professor and two Assistant Professors, each of the three representing a special division of the general subject. An Instructor has been added in Electrical

Engineering. The laboratories of Civil, Electrical and Mechanical Engineering have been installed in a new building adjacent to the older one and have been brought to a very high degree of efficiency. The Department library also has been improved. Professor H. B. Shaw has been appointed Junior Dean for the session of 1904-5, his appointment to date from the first of next September.

The College of Agriculture:

For the present session an Instructor was appointed in Veterinary Surgery and able Assistants were added in Horticulture, Entomology, Botany, and Dairy Husbandry. Mr. F. B. Forbes has been with us as Assistant Professor of Animal Husbandry. A chair of Agronomy has been established to be filled in time for next fall. The burden that this Faculty has been carrying in (1) teaching, (2) research, (3) extension work, has rendered this increase of teachers particularly helpful. This faculty is still in my opinion overstrained. A furlough for study in Europe has been granted for next session to Dr. John W. Connaway, Assistant Professor C. H. Eckles, and to Dean Waters. Their places will be supplied and they will return to us with increased power to teach and to investigate. In this Department also there have been comforting additions to libraries and laboratories. Last summer you gave to the Dean, H. J. Waters, a furlough to enable him to collect and install the Missouri State Agricultural Exhibit at the World's Fair. During his absence, Professor F. B. Mumford has been acting very acceptably as Dean.

Medicine:

Last summer the Curators established and equipped a laboratory of Internal Medicine and another of Physiological Chemistry and Pharmacology. Assistant Professor W. J. Calvert was placed over the laboratory of Internal Medicine and Assistant Professor Waldemar Koch over that of Pharmacol-

ogy and Physiological Chemistry. A number of improvements have been made in the Parker Memorial Hospital. The libraries and laboratories have been improved by new books and new apparatus. You have agreed with Dr. A. W. McAlester to give his entire time, beginning with next September, to his duties as Dean of the College and Superintendent of the Hospital. You have established this year a system of Graduate Internes in the Hospital. The Training School for Nurses has been full. The number of patients in the Hospital, indoor and outdoor, has been steadily increasing, but not very rapidly.

Law:

The Department of Law was thoroughly reorganized last summer. The staff of resident teachers consists of the Dean, two Professors, and an Instructor. The teaching is further aided by a staff of non-resident lecturers selected for ability as judges and practitioners. Two of your resident professors are employing the Case System in their teaching and a third is trying it, side by side, with the text book method. Personally, I believe that the Case System corresponds to laboratory work and should be employed. The best way is scarcely ever found in extremes. I congratulate you on the fact that the Case System has been firmly established here during the present session. Instead of the old Moot Court, which met occasionally, we have fitted up one room as a Practice Court with everything that is essential in officers and in furniture. This court sits regularly three afternoons in every week. Our enrollment this year is the largest that has ever been gathered at one time here or at any other Law School in Missouri.

Teachers College:

Last summer you elected Dr. A. Ross Hill chief officer of your Department of Education. He was to spend the year with us partly in teaching, partly in traveling over the State, and

partly in planning for the development of his Department. Later it seemed to you best to establish a Teachers College, coordinate in rank with those of Law, Medicine, and Engineering. It will offer a degree of Bachelor of Science in Education. The requirements for admission will be as high as they are in the College of Liberal Arts. The course of study, four years long, consists of studies in the College of Liberal Arts, of studies in the College of Agriculture, and of the technical work in Education. We shall arrange for next fall a building adjacent to the Campus for a Practice School. Mr. Hill, who has been elected Dean, will be aided by two professors, each representing a division of the subject, making a staff of three in Education. From the existing faculties of the University he has chosen wisely a number of men specially fitted to represent the Pedagogy of their respective subjects. It is not presumptuous in me to say that next year your Teachers College ought to be superior to that of any State University in the Mississippi Valley and that it will have among those connected with universities only one competitor in the Mississippi Valley—the University of Chicago—only two on the Atlantic Coast—Clark and Columbia—and only one on the Pacific Coast.

Many improvements have been made at the School of Mines and Metallurgy at Rolla, Missouri. The fact that it is impossible for me to visit this Department of the University as often as I would like to do makes it necessary for me to refer you for fuller information to the Report of the Director, Dr. George E. Ladd. I may say in general that the three new buildings have been completed, furnished, and occupied. The enrollment is as large as it should be in a school that aims at high standards of work in mining engineering and metallurgy.

During the twelve months that have elapsed since 1 June, 1903, you have spent nearly $20,000 in improving the libraries at Columbia besides a considerable sum on those of the School of

Mines. In the same period about $15,000 has been spent in the improvement of laboratories at Columbia and a considerable additional sum for those at the School of Mines.

Time fails me to tell fully of the additions to the faculties for the coming session 1904-5. You will pardon me for giving a brief summary of the positions to be filled.

The Chair of Philosophy, made vacant by the resignation of Professor Frank Thilly who goes to Princeton next year.

An Assistant Professor of Romance Languages.

An Instructor in English.

An Assistant in Greek.

An Instructor in Physics.

An Assistant in Chemistry.

An Assistant Professor of Mathematics.

Two Assistants in Mathematics.

The Chair of Agronomy in the College of Agriculture.

An Instructor in Veterinary Surgery.

An Instructor in Law.

An Instructor in Bacteriology and Pathology.

A Head Nurse of Parker Memorial Hospital to succeed Miss Sophie L. Evans.

An Assistant in Mechanical Drawing.

Two Instructors in Mechanic Arts.

A Professor of the History of Education and Supervisor of Practice work in Secondary Schools.

A Professor of Theory and Practice of Teaching and Supervisor of the Elementary Practice School.

An Inspector of High Schools.

Several of these positions have already been filled greatly to our satisfaction, but lack of space compels me to omit mention here of the names and of the training of these new colleagues.

But the session has not been without its disasters. Much to our sorrow Dr. Frank Thilly has been called to the Stuart Professorship of Psychology at Princeton. Moreover, the Collateral Inheritance Tax, upon the yield of which depends much of the income of the University, has been yielding slowly in the twelve months that have elapsed since 1 June, 1903. The income of the University has fallen at least $100,000 below our expectations. We shall be abundantly able to meet all the obligations that have been incurred, but it has been impossible for us to erect several buildings which are sorely needed and which we confidently expected, and the expenditures for the libraries and laboratories also have been diminished. Nevertheless, we may in the face of this misfortune justly congratulate ourselves upon meeting all our obligations without debt, upon a number of improvements in material equipment, upon the marked improvement of the faculties, upon the establishment of a better college spirit, and upon the patience of all over our failure to erect the buildings that we so eagerly planned.

Take it all in all, we may safely say that for solid improvement in the things that are most essential to efficiency and greatness, the session of 1903-4 has no parallel in the history of the University of Missouri.

Thanks for the success of the year are due to the Curators and officers and teachers and students, but chiefly to Him, who by manifest acts of special providence has watched graciously over the interests of our University in past years and in the highest degree during the present session.

Very respectfully yours,

R. H. JESSE,

President.

II. GRADUATE DEPARTMENT.

REPORT OF THE COMMITTEE ON GRADUATE WORK.

To the President of the University of Missouri:

Sir:—We have the honor to submit the fourth annual report of the Graduate Department.

The Board of Curators has adopted the recommendation of the University Council that each of the departments of the University shall have charge of its own graduate work. In organizing the graduate work of the Academic Department, the Academic Faculty has established the following divisions:

a. Classical Languages; b. Modern Languages; c. History and Political Sciences; d. Philosophy and Education; e. Biological Sciences; f. Mathematical and Physical Sciences.

Each one of these divisions has elected one of its members to represent it on the Graduate Conference of the Academic Department. The graduate work of the Academic Department is to be under the direct control of this body. These acts of the Council and of the Academic Department relieves the Committee of Graduate Work of a large part of its functions. It will still be necessary to have some committee to care for such matters as may concern graduate work of the University as a whole; for example, to recommend candidates for honorary degrees and to recommend candidates for the University fellowships and scholarships.

In accordance with an order of the Board of Curators that "the University may print theses written by candidates for the master's degree, if such theses are found worthy of publication," the thesis presented in 1902 by William Wilson Elwang in partial fulfillment of the requirements for the degree of Master of Arts in the Department of Sociology, entitled, "The Negroes of Columbia, Missouri, a Concrete Study of the Race Problem,"

has been printed and distributed. The Committee is of the opinion that the University should continue to publish in this series of "Master's Theses" all such theses as are found especially worthy of publication.

In spite of the fact that the position of "teaching fellow" has been abolished, the teaching fellow is still with us. The Committee has repeatedly expressed itself in condemnation of the practice of employing fellows in teaching, and can now only emphasize its former statements. We believe that it is not wise to place students who ought, primarily, to be interested in their own graduate work, in charge of classes who should be instructed, in every case, by teachers more advanced in knowledge and more mature in experience than is the ordinary teaching fellow.

The wisdom of the last General Assembly in appropriating $4,000 to be expended for scholarships and fellowships during the present biennial period has, we believe, been demonstrated. For the present Academic Year, twelve scholars were appointed. Of this twelve, eleven have completed the work necessary for the master's degree and their work and the theses submitted are of a high character. It is expected that during the present year a still larger number of scholars and fellows may be doing work in the University. The Committee in its recommendations for fellowships and scholarships last year, laid down the principle that scholarships should be awarded to students in the first year of graduate work and fellowships be reserved for later years. In the recommendations for the Academic Year 1903-4, this principle has been departed from in two instances. However, these two students as undergraduates have done original work of a high character, work which has been deemed worthy of publication.

TABLE I.

Showing the number of Students applying for Scholarships and Fellowships for the Year 1904-5, *with the Names of their Major Subjects.*

Agricultural Chemistry	1
Anatomy	2
Botany	3
Chemistry	2
Economics	1
English	5
Entomology	1
Greek	3
German	2
History	4
Latin	5
Mathematics	4
Philosophy	2
Physiology	1
Political Science and Public Law	1
Romance Languages	3
Sociology	1
Zoology	1
Undetermined	1
19	43

TABLE II.

Showing States from which Applications for Scholarships for the Year 1904-5 *have been Received, with the Number Applying from each State.*

Alabama	1
Idaho	1
Illinois	1
Iowa	1
Kentucky	1
Maine	1
Mississippi	2
Missouri	27
New York	1
Tennessee	2
Texas	2
West Virginia	1

Wisconsin	2
13	43

Last year there were thirty-nine (39) applications for scholarships and fellowships; this year there were forty-three (43). The preparation and quality of the applicants this year was far higher than that shown by the applicants one year ago. It will be noticed, also, that the range of states from which applications came has been, this year, much wider than last. The principle laid down last year for the guidance of the Committee, that the applicants of the greatest promise should be chosen, irrespective of the line of work they expected to follow, has been rigidly adhered to. The Committee find that the requirement that applications for scholarships and fellowships for any year should be on file with the Registrar of the University on or before March fifteenth, is a wise one and we recommend that the selected candidates be chosen at the April meeting of the Board of Curators.

As was mentioned in our last report, it has not been the policy of the University up to the present year to encourage graduate students to remain with us and work for the degree of Doctor of Philosophy. With the enlargement of our facilities, both for instruction and research, the time has come when it is wise to advise students to remain and work, in some departments at least, for the Doctorate. Four students are now registered as candidates for the degree of Ph. D.

At the sixty-first Commencement, June 3, 1903, the degree of LL. D. was conferred upon William Trelease, Ph. D., director of Shaw's Garden, a man eminent for his acquirements in many sciences, particularly in botany. Owing to the inclemency of the weather and the presence of floods throughout the whole Mississippi Valley, other gentlemen who had been named for this distinguished honor were not able to be present. At a convocation held in October of the present year, this degree was also

conferred upon Honorable Joseph V. C. Karnes, of Kansas City, a graduate of this institution, and a man eminent in the legal profession of this State.

During the past year the following numbers of "The University of Missouri Studies" have been published:

CHARLES A. ELLWOOD, Ph. B., Ph. D.,

Public Relief and Private Charity in England.

FRANK THILLY, A. B., Ph. D.,

The Process of Inductive Inference.

The high character of this publication has been kept up and other numbers are now in the press or are being prepared for the press.

The following table gives the record of the students upon whom the Master's Degree was conferred in 1903:

MASTER OF SCIENCE IN AGRICULTURE.

WALTER LAFAYETTE HOWARD,

B. S. in Agr., U. of M., '01.

Thesis: *"The Crown Gall Disease of the Apple."* A discussion of the malady in general and as applied to Missouri.

Now Instructor in Horticulture in this University.

ELECTRICAL ENGINEER.

FOREST SHEPARD LYMAN,

B. S. in E. E., U. of Mo., '00.

Thesis: *"Design and Operation of Telephone Exchanges."*

Now Superintendent of Maintenance, Kinloch Telephone Company, St. Louis.

ROY HENRY PINKLEY,

B. S. in E. E., U. of Mo., '99.

Thesis: *"An Underground Electrical Distributing System."*

Now Assistant Superintendent Imperial Plant, Union Electric Light and Power Company, St. Louis.

MECHANICAL ENGINEER.

JOHN ALVIN BRUNDIGE,

B. S. in M. E., U. of Mo., '02.

Thesis: *"Belt Testing."*

Now Assistant Engineer with the Ontario Power Construction Company.

MASTER OF LAWS

STONEWALL JACKSON WALTON,

LL. B., U. of Mo., '02.

Thesis: *"The Right to Rescind Continuing Contracts of Sale."*

Now practicing law in St. Louis.

MASTER OF ARTS.

CHARLES CLIFFORD DUBOIS,

A. B., U. of Mo., '02.

Thesis: *"Histology of the Pig's Small Intestine."*

Now Assistant in Anatomy in this University.

TALITHA JENNIE GREEN,

A. B., U. of Mo., '01.

Thesis: *"The Gods of the Aeneid."*

Now Instructor in Latin, Kirksville Normal School.

MAUD ELLIS MONTGOMERY,

A. B., U. of Mo., '02.

Thesis: *"Index Raisonne aux deux premiers volumes de Petit-de-Julleville."*

Now teacher of French and Latin, in High School, Fort Scott, Kansas.

THOMAS BENTON PERRY,

B. S., U. of Mo., '98.

Thesis: *"Solutions of Differential Equations not obtained by Giving Particular Values of the Constant of Integration in the General Solution."*

Now Civil Engineer with the Mississippi River Commission.

PETER POTTER,

B. S., U. of Mo., '01; M. D., U. of Mo. '03.

Thesis: *"Topography of the Human Viscera, Investigated by the Section Method."*

Now Assistant Professor of Anatomy, St. Louis University.

JAMES EDWARD TUTHILL,

A. B., U. of Chicago.

Thesis: *"The Golden Age of English Monasticism."*

Now Scholar in History, University of Wisconsin.

TABLE III.

Showing number of Fellows or Scholars in different University studies. Degrees Conferred in 1903, *candidates for* 1904, *with subjects and departments in which these degrees were and are to be taken.*

STUDY.	No. of fellows or scholars.	Making specialty of	Other students in	Degrees conferred in 1903.	Candidates for degrees in 1904.
Agriculture	0	0	0	1	0
Agricultural Chemistry	1	1	0	0	0
Anatomy	0	2	1	2	0
Bacteriology and Pathology	0	0	1	0	0
Botany	0	4	0	0	0
Chemistry	0	2	5	0	0
Civil Engineering	0	4	1	0	0
Classical Archaeology	0	2	5	0	0
Economics	1	1	2	0	1
Education	0	2	1	0	0
Electrical Engineering	0	1	0	2	0
Elocution	0	0	1	0	0
English	2	2	7	0	2
Entomology	0	0	1	0	0
German	0	6	6	0	1

Greek	1	1	5	0	1
History	1	4	3	1	1
Horticulture	0	1	0	0	0
Latin	2	3	2	1	2
Law	0	0	0	1	0
Mathematics	2	4	1	1	2
Mechanical Engineering.	0	3	0	1	0
Philosophy	0	3	2	0	1
Physiology	0	0	2	0	0
Political Science and Public Law	1	2	2	0	1
Psychology	0	0	3	0	0
Romance Languages	1	2	5	1	1
Sociology	0	2	0	0	0
Shopwork	0	0	2	0	0
Surgery	0	0	2	0	0
Zoology	0	1	0	0	0
	12	53	60	11	13

TABLE IV.

Showing the Number of Graduate Students who hold Degrees from different Colleges.

	1901-2	1902-3	1903-4
Adrian College (Mich.)	1		
Central College (Mo.)	1		
Central Wesleyan College (Mo.)	1		
Cornell University			1
Chicago University			1
Harvard University	1	2	
Haverford College (Pa.)	1		
Hiram College (Ohio)	1		
Illinois Wesleyan College	1		
Illinois University			1
Indiana University		1	1
Iowa State College			1
Kansas University	1	1	
Leland Stanford, Jr., University		1	
Michigan Agricultural College			1
Michigan University	1		2
Missouri Valley College (Mo.)		1	1
Missouri University	31	38	44
Nebraska University	2		
Ohio University	1	2	2
Park College (Mo.)	1		1

Princeton University	1		
Southwestern Presbyterian University	1	1	1
Texas Agricultural College			1
Washington and Lee University	1		
Washington University	2	2	
Wellesley College (Mass.)		1	1
Western Reserve University (Ohio)	1		
William Jewell College (Mo.)	1		1
Wisconsin University	1		
Wurtzburg University	1		
	52	50	61

Number of Institutions in 1901-2..... 20
Number of Institutions in 1902-3..... 10
Number of Institutions in 1903-4..... 16

It should be noticed that the number of institutions represented in 1903-4 is larger than the number in 1902-3, though not so large as the number in 1901-2. The larger number in the Academic Year last mentioned is accounted for by the fact that at that time we had a large number of teaching fellows.

TABLE V.

Showing the number of different degrees held:

	1901-2	1902-3	1903-4
A. M.	8	6	4
M. S.		1	2
A. B.	23	25	36
B. S.	3	4	4
B. L.	7	2	3
Ph. B.	6	2	2
B. S. in Agriculture	1	1	1
Agr. B.	1		
B. S. in Civil Engineering	3	1	4
B. S. in Electrical Engineering	4	4	1
B. S. in Mechanical Engineering		3	4
LL. B.	2	3	
M. D.	2		
P. B.	2		
Ph. D.			1
	62	52	62
Counted twice	13	6	6
Total number holding degrees	49	46	56

In Table V. a comparison of the numbers given in the three academic years will show that the number of graduate students holding the degree of A. B. is very rapidly increasing.

TABLE VI.

Showing the number of students in the Graduate Department in the years 1900-4.

	1900-1	1901-2	1902-3	1903-4
Women	20	16	14	17
Men	30	33	32	39
Total number of students	50	49	46	56
Degrees granted	12	15	11	12
Number of fellows or scholars	14	20	5	12
First year students		36	29	46
Second year students		6	11	6
Third year students		3	2	3
Fourth year students		3	2	1
Fifth year students		1	2	0
In absentia*		5	8	7
From other states and countries		12	14	14
Graduate students not before members of the University		14	6	9
Average age at the time of entrance		28	27	26
Average age at time of receiving degree		27	28	

It is interesting to note in Table VI that the number of men graduate students is increasing much more rapidly than the number of women, and that the total number of students shows a gratifying increase over the number registered last year, and that the average age of graduate students is decreasing.

*Candidates for C. E., E. E., and M. E.

TABLE VII.

Showing the number of students who are making a specialty of certain subjects or groups of related subjects.

	1901-2	1902-3	1903-4
Applied Sciences	8	10	11
Modern Languages	7	8	10
History, Economics and Political Sciences	7	3	9
Classics	6	3	6
Pure Science	5	5	8
Mathematics	5	3	4
Philosophy and Education	2	2	5
Law	2	3	
Medicine	2		
Total	44	37	53
Unclassified	5	9	3
Total	49	46	56

For the sake of the comparison of the records of the two previous years, it has seemed wise to group the students in Table VII in the same manner as was employed in the last annual report. There seems to be no noticeable change in the election of subjects by the graduate students.

Respectfully submitted,

JOHN PICKARD,
RAYMOND WEEKS,
H. B. ALMSTEDT,
Committee on Graduate Work.

III. ACADEMIC DEPARTMENT.

REPORT OF THE ACTING DEAN.

To the President of the University of Missouri:

Sir:—I have the honor to submit my report as Acting Dean of the Academic Department.

CHANGES IN THE FACULTY.

Since the last report of the Dean the following changes in the Academic Faculty have been made:

At the close of the Academic Year 1902-3, the following resignations were accepted:

John Nelson Fellows, Professor of Mathematics; Ralph Emerson Bassett, A. M., Assistant Professor of Romance Languages; Arthur Byron Coble, Ph. D., Instructor in Mathematics; Rolla Roy Ramsey, Ph. D., Instructor in Physics.

It is with much regret that I record the acceptance of the resignation of Frank Thilly, Ph. D., Professor of Philosophy, to take effect at the close of the present Academic Year.

Appointments:

Professors: Earle Raymond Hedrick, Ph. D., Professor of Mathematics; Assistant Professors: Waldemar Koch, Ph. D., Assistant Professor of Physiological Chemistry and Pharmacology; Instructors: Louis Darwin Ames, A. M., in Mathematics; Ellen Douglas (Acting) in Romance Languages; Charles Albert Proctor, A. B., in Physics; Howard Sprague Reed, A. B., in Botany; Joseph S. Summers, A. M., in Physics; Assistants: Sophia Bodenheimer, in Women's Gymnasium; Eugene P. Cowgill, in Physiology; Clarence Clinton Crouch, in Zoology; Charles Clifford Dubois, in Anatomy; Carl Conrad Eckhardt, in History; Charles Oscar Giese, in Anatomy; William Hammack Goodson, in Anatomy; Omer Ray Gullion, in

Anatomy; Fannie Belle Hatcher, in Mathematics; Louis Ingold, in Mathematics; Frank Wright Liepsner, in Chemistry; Albert Carlton Lyon, in Chemistry; Eugenia Metzger, in Anatomy; Allan Samuel Neilson, in English; Robert Morris Ogden, in Psychology; Leonidas Rutledge Whipple, in English; Herbert Spencer Woods, in Chemistry; William Hatcher Ziegel, in Mathematics.

Promotions: Winterton Conway Curtis from the rank of Instructor to that of Assistant Professor.

Because of the urgent demand for a larger teaching force, the following appointments have also been made for the year 1904-5:

George A. Bliss, Ph. D., Assistant Professor of Mathematics; John Taggart Clark, Ph. D., Assistant Professor of Romance Languages; Lawrence Wylie Burdick, Assistant in Greek. Other appointments should be made to meet the existing needs in the departments of Economics, English, Latin, Physics, Sociology and Zoology.

At the beginning of the present session, Professor Benjamin Franklin Hoffman, of the Department of Germanic Languages, and Assistant Professor Henry Caples Penn, of the Department of English, resumed their duties in the University. During the present session, Professor Clarence Martin Jackson, of the Department of Anatomy and Histology, Professor John Carleton Jones, Dean of the Academic Department and Professor of Latin, and John Sites Ankeney, Jr., Instructor in Freehand Drawing, have been absent in Europe for the purpose of pursuing their studies. Mr. Elexious Thompson Bell, B. S., M. D., has held the rank of Instructor (in charge) of the Department of Anatomy. Edgar Howard Sturtevant, Ph. D., has held the position of Acting Assistant Professor (in charge) of the Department of Latin. Alexandra H. Blumberg has been Acting Instructor (in charge) of the Department of Freehand Drawing.

THE STUDENTS.

ENROLLMENT.

Five hundred and forty-nine (549) students have been enrolled in the Academic Department during the present session, as follows:

TABLE I.

Freshmen	181
Sophomores	114
Juniors	104
Seniors	77
Specials	73
Total	549

Total number of men and women in each class:

	Men.	Women.	Total.
Freshmen	98	83	181
Sophomores	65	49	114
Juniors	71	33	104
Seniors	47	30	77
Specials	15	58	73
Total	296	253	549

STUDENTS ADMITTED IN THE SESSION OF 1903-'04:

Two hundred and two students have been admitted in this session to the various classes of this department. Sixty-six special students have also been admitted, making a total of two hundred and sixty-eight. Of the two hundred and two regular students, one hundred and eighty-one were admitted to the Freshman class, thirteen to the Sophomore class, six to the Junior class, and two to the Senior class.

A. Admitted on Certificates from Approved Schools.

One hundred and eighteen students were admitted on certificates from fifty-one accredited schools. The table given below shows the accredited schools represented by one or more students admitted in the present session, and the number from each:

TABLE II.

NAME OF SCHOOL.	NO.
Appleton City Academy	1
Aurora High School	1
Bethany College	1
Bethany High School	1
Bloomfield High School	1
Cameron High School	2
Carrollton High School	1
Carthage High School	4
Caruthersville High School	2
Central Academy	1
Chillicothe High School	2
Christian College	5
Clinton High School	1
Columbia High School	15
Columbia Normal Academy	8
Gallatin High School	2
Macon High School	2
Mann High School	1
Marshall High School	1
Maryville High School	6
Memphis High School	1
Mexico High School	5
Missouri Valley College	2
Moberly High School	2
Monroe City High School	2
Pierce City High School	2
Princeton High School	1
Ridgeway High School	3
Sedalia High School	3
St. Joseph High School	2
St. Louis High School	5
St. Louis Manual Training School	1
Harrisonville High School	1
Independence High School	1
Jefferson City High School	1
Joplin High School	1
Kirkwood High School	3
Kansas City High School	7
Kansas City Manual Training School	2
Lamar High School	1
Lancaster High School	2
Lexington High School	2
Shelbina High School	1

Slater High School	1
Trenton High School	1
Vandalia High School	1
Webb City High School	2
Wentworth Military Academy	1
West Plains College	1
Westport High School	1
Woodson Institute	1

B. Admitted by Examination.

Forty students have been admitted during this session by examination. Of this number, thirty-four are freshmen, two are sophomores, two juniors, and two seniors.

The following table shows the various academies, high schools, and colleges within the State from which one or more students have been admitted by examination during the present session, and the number from each:

TABLE III.

NAME OF SCHOOL.	NO.
Armstrong High School	1
Carleton College	1
Central High School (K. C.)	1
Columbia Normal Academy	2
Columbia High School	1
Grant City High School	1
Hermann High School	1
Missouri Wesleyan College	1
Nevada High School	1
Paynesville Academy	1
Park College	1
Pleasant Hill High School	1
Ridgeway High School	1
Stanberry Normal	5
Howard Payne College	1
Kirksville Normal	1
La Belle High School	1
Lockwood High School	1
Maryville Seminary	1
Missouri Military Academy	2
Missouri Valley College	1
Stephens College	1

Sweet Springs High School	1
Tarkio High School	1
University Academy	1
Webster Public School	1
William Jewell College	1
William Woods College	2

The following table shows the colleges, academies, high schools, etc., outside of Missouri that are represented by one or more students among those admitted during the present session:

TABLE IV.

NAME OF SCHOOL.	NO.
Barry (Ill.) High School	1
Berkley (Mass.) School	1
Baker (Kan.) University	1
Cameron (Tex.) High School	1
Chicago University	2
Christian Brothers College (Tenn.)	1
Clark's Academy (Ark.)	1
Clyde (Kan.) High School	1
Coe College (Iowa)	1
Culver Military Academy (Ind.)	1
Fort Smith (Ark.) High School	5
Eureka College (Ill.)	1
Houston (Texas) High School	1
Iowa College	2
Kansas University	1
Logansport (Ind.) High School	1
Montana A. & M. College	1
Monticello Seminary (Illinois)	1
Nebraska Wesleyan University	1
Olathe (Kan.) High School	1
Osceola (Iowa) High School	1
Palmer (Mass.) High School	1
Pawnee (Okla.) High School	1
Quincy (Ill.) High School	1
Scranton (Pa.) High School	1
Spokane (Wash.) High School	1

Seven were admitted from the Kirksville Normal School, four from the Warrensburg Normal School, and two from the Cape Girardeau Normal School.

CURATORS' SCHOLARSHIPS.

Harry W. Briney .....Bloomfield High School
Walter E. Dandy .....Sedalia High School
Mabel H. Duncan .....Columbia High School
Charles H. Fessenden .....St. Louis Manual Training School
Edith E. Grace .....Palmer (Mass.) High School
Maurice H. Hicklin.....Lexington High School
Adam B. Keller (1903).....Columbia Normal Academy
Richard King, Jr. .....San Antonio (Texas) Academy
Fred H. Krog .....Washington High School
Pearl A. Le Compte.....Pierce City High School
John W. Read (1902).....Columbia Normal Academy
Clyde S. Shepard .....Caruthersville High School
Andrew V. Small.....Wentworth Military Academy
Virgil W. Surber.....Moberly High School
Elsie Waddell .....Kansas City Manual Training School

TABLE V.

Showing elections of the freshman class by subjects and also the number of individuals electing each subject.

	Men.	Women.	Total.	Total enrollment
Anatomy	2	0	2	5
Archaeology and History of Art	6	15	21	27
Astronomy	4	0	4	4
Botany	4	9	13	14
Chemistry	18	3	21	23
Drawing	7	18	25	27
Economics	7	0	7	7
Elocution	0	2	2	2
English	85	72	157	193
Experimental Psychology	9	6	15	25
German	55	51	106	107
Geology	6	1	7	7
Greek	12	10	22	25
History	72	48	120	150
Latin	40	36	76	87
Mathematics	43	21	64	72
Philosophy	8	2	10	10
Physics	19	7	26	26
Physiology	0	1	1	1
Political Science and Public Law	1	0	1	1

Romance Languages	24	31	55	56
Pedagogy	1	9	10	16
Sociology	3	0	3	3
Zoology	23	11	34	35

Non-Academic Subjects.

Agriculture	2	0	2	4
Horticulture	2	1	3	3
Law	1	0	1	3
Manual Training	0	6	6	7
Shop	4	1	5	9
Surveying	1	0	1	1

TABLE VI.

Showing the elections of the sophomore class by subjects and also the number of individuals electing each subject:

	Men.	Women.	Total.	Total enrollment
Anatomy	3	1	4	10
Archaeology and History of Art.	4	6	10	14
Astronomy	2	0	2	2
Botany	1	1	2	3
Chemistry	10	2	12	12
Drawing, Freehand	5	10	15	17
Economics	19	0	19	22
Elocution	10	11	21	21
English	48	38	86	109
Experimental Psychology	3	2	5	10
German	31	25	56	57
Geology	6	0	6	6
Greek	10	9	19	22
History	40	20	60	81
Latin	11	17	28	36
Mathematics	17	7	24	30
Philosophy	12	1	13	13
Physics	4	1	5	5
Physiology	2	1	3	5
Political Science and Public Law.	9	0	9	9
Pedagogy	5	11	16	21
Romance Languages	22	28	50	55
Sociology	18	6	24	28
Zoology	9	3	12	15

Non-Academic Subjects.

Agriculture	1	0	1	1
Bacteriology	1	0	1	1
Histology	1	0	1	1
Horticulture	1	0	1	2
Law	2	0	2	4
Manual Training	0	5	5	6
Pathology	1	0	1	1
Shop	1	0	1	1
Surveying	1	0	1	1

TABLE VII.

Showing the elections of the Junior Class and the number of courses.

	Men.	Women.	Total.	Total enrollment
Anatomy	7	1	8	21
Archaeology and History of Art.	6	9	15	20
Astronomy	1	0	1	2
Botany	2	5	7	16
Chemistry	13	2	15	24
Drawing	1	2	3	3
Economics	17	1	18	20
Elocution	5	0	5	5
English	36	20	56	82
Experimental Psychology	13	13	26	37
German	23	20	43	47
Geology	7	2	9	10
Greek	8	5	13	15
History	24	13	37	48
Latin	10	7	17	20
Mathematics	12	4	16	26
Philosophy	14	1	15	23
Physics	10	8	18	20
Physiology	3	1	4	6
Political Science and Public Law.	13	1	14	18
Pedagogy	11	19	30	56
Romance Languages	20	18	38	42
Sociology	20	3	23	37
Zoology	7	4	11	15

Non-Academic Subjects.

Agriculture	0	0	0	0
Histology	1	1	2	2
Horticulture	2	1	3	3
Hygiene	1	0	1	1
Law	3	0	3	14
Mechanical Drawing	1	0	1	1
Mechanical Engineering	1	0	1	2
Mechanics	2	0	2	2
Pathology	1	0	1	3
Shop	1	1	2	2

TABLE VIII.

Showing elections of Seniors and total enrollment in each subject.

	Men.	Women.	Total.	Total enrollment
Anatomy	2	2	4	8
Archaeology	4	6	10	15
Astronomy	0	2	2	3
Botany	3	0	3	3
Chemistry	9	1	10	15
Drawing	1	8	9	9
Economics	12	2	14	21
Elocution	5	1	6	6
English	14	21	35	66
Experimental Psychology	10	8	18	32
German	10	9	19	24
Geology	4	1	5	7
Greek	3	6	9	16
History	15	9	24	42
Latin	2	13	15	22
Mathematics	6	3	9	17
Philosophy	10	5	15	19
Physics	8	2	10	14
Physiology	2	1	3	7
Political Science and Public Law.	15	1	16	23
Pedagogy	16	17	33	70
Romance Languages	10	11	21	26
Sociology	11	3	14	29
Zoology	6	1	7	14

Non-Academic Subjects.

Agriculture	2	0	2	13
Electrical Engineering	1	0	1	2
Horticulture	3	0	3	3
Hygiene	1	0	1	1
Law	4	0	4	15
Mechanical Engineering	1	0	1	2
Mechanics	0	1	1	1
Medicine and Therapeutics	1	0	1	3
Manual Training	1	0	1	1
Shop	3	0	3	3
Surgery	1	0	1	1

TABLE IX.

Showing elections of special students and total enrollment.

	Men.	Women.	Total.	Total enrollment
Archaeology	1	9	10	12
Botany	1	1	2	2
Chemistry	1	1	2	2
Drawing	0	8	8	8
Economics	2	0	2	2
Elocution	2	9	11	12
English	13	21	34	50
Experimental Psychology	1	2	3	4
German	6	13	19	21
Greek	1	1	2	2
History	6	10	16	25
Latin	1	7	8	11
Mathematics	1	0	1	1
Philosophy	2	1	3	3
Physics	0	1	1	1
Physiology	0	1	1	1
Pedagogy	1	4	5	6
Political Science and Public Law.	1	3	4	4
Romance Languages	3	18	21	23
Sociology	2	3	5	6

Non-Academic Subjects.

Agriculture	0	1	1	1
Manual Training	2	7	9	10

TABLE X.

Summary of tables V-IX.

	Men.	Women.	Total.	Total enrollment
Anatomy	14	4	18	44
Archaeology and History of Art.	21	45	66	88
Astronomy	7	2	9	11
Botany	11	16	27	38
Chemistry	51	9	60	76
Drawing	14	46	60	64
Economics	57	3	60	72
Elocution	22	23	45	46
English	196	172	368	500
Experimental Psychology	37	31	68	108
Geology	23	4	27	30
German	125	118	243	256
Greek	34	31	65	80
History	157	100	257	346
Latin	64	80	144	176
Mathematics	80	35	115	146
Philosophy	46	10	56	68
Pedagogy	34	60	94	169
Physics	41	18	59	66
Physiology	7	5	12	20
Political Science and Public Law.	39	5	44	55
Sociology	54	15	69	103
Zoology	45	19	64	79
Non-Academic Subjects.				
Agriculture	5	1	6	19
Bacteriology	1	0	1	1
Histology	2	1	3	3
Horticulture	6	3	9	11
Hygiene	2	0	2	2
Manual Training	4	18	22	24
Mechanics	2	1	3	3
Shop	9	2	11	15
Surveying	2	0	2	2

TABLE XI.

Showing the number electing the various subjects since the beginning of the elective system.

	1900-1	1901-2	1902-3	1903-4
Anatomy	0	19	22	18
Astronomy	0	15	17	9
Archaeology	32	37	87	66
Botany	20	27	15	27
Chemistry	52	63	59	60
Drawing	0	0	0	60
Economics	46	52	43	60
Elocution	120	169	195	45
English	313	340	353	368
Experimental Psychology	0	70	80	68
Germanic Languages	188	198	198	243
Geology	30	21	28	27
Greek	82	83	74	65
History	211	253	240	257
Latin	160	160	149	144
Mathematics	159	143	119	115
Philosophy	44	42	77	56
Physics	40	42	52	59
Physiology	3	3	16	12
Political Science	0	0	30	44
Pedagogy	66	107	96	94
Romance Languages	154	180	184	185
Sociology	50	114	96	69
Zoology	38	45	46	64

The numbers given in tables V-XI, inclusive, do not by any means represent the total number of students taught in the various subjects of the Academic Department. These numbers are, in many cases, very largely increased by students from all the other departments of the University.

SUPERVISION OF STUDENTS.

The method of supervising the students of the Academic Department still leaves much to be desired. In my opinion, the head professors would do well to indicate in their announcements in the Catalogue the courses which are not open to elec-

tion by Freshmen. It would be well if every head professor would take into his own hands the issuing of "course cards" for his subject and exercise much care in preventing students from electing subjects for which they are not well equipped. Most of the students who are reported to the Dean as deficient in their work during the year are in this unfortunate state because of the fact that they have been allowed to elect subjects which are beyond them. It would, I think, be wise to adopt an advisory system by which the Freshman and Sophomore classes shall be apportioned to those members of the teaching force who, by training and temperament, are well qualified to give good advice, particularly in the matter of the election of studies. We can not perhaps adopt the English tutorial system in its entirety, but a modified form of this system would certainly obviate some of the difficulties which are met by new students. I again call attention to the fact that members of the faculty do not report to the Dean with sufficient promptness at the opening of the semester those students who are failing to do good work in their subjects.

RAISING THE STANDARDS FOR ADMISSION.

The time has arrived, I believe, to raise the standards for admission to the University. The number of high schools in the State that are able to do more than the amount of work that we require for admission to the Academic Department is becoming larger each year. It would be well for both the University and the high schools if the University standards should be raised to a point where only graduates from the better high schools of the State would be able to enter the Freshman class of the University. It would not be wise to advance the requirements of admission too much at one time nor too rapidly, but the tendency should certainly be upward.

ACADEMIC BULLETIN.

This year, for the first time, a bulletin has been issued, setting forth the advantages of the Academic Department. It is of much importance, not merely to the Academic Department, but to the University as a whole that this department should be made strong and that every reasonable inducement should be offered to students to complete an academic before entering on a professional course. A strong academic course means strength to every department of the University; a weak academic course is a fatal weakness in the University as a whole.

FACULTY LEGISLATION.

The most important faculty legislation of the year is comprised in the following articles adopted at a recent meeting of the Academic Faculty.

Section 1. The following divisions, embracing branches of study indicated, are established in the Academic Department:

a. Classical Languages—Greek, Latin, Classical Archaeology and History of Art.

b. Modern Languages—English, Germanic Languages, Romance Languages.

c. History and Political Sciences — Economics, History, Sociology, Political Science and Public Law.

d. Philosophy and Education—Philosophy, Experimental Psychology, Educational Psychology.

e. Biological Sciences—Anatomy and Histology, Botany, Physiology and Pharmacology, Zoology.

f. Mathematical and Physical Sciences — Astronomy, Chemistry, Geology and Mineralogy, Mathematics, Physics.

Section II. Each division shall consist of all the instructors and teachers of higher rank in the particular branches of study of each division.

Section III. Each division shall elect from its own members a chairman and a secretary, who shall hold office for a term

of two years, beginning on the first Thursday in June, and who shall be eligible for re-election.

Section IV. Each division (subject to the by-laws of the Board of Curators and the rules of the Academic Department and of the Graduate Conference of the Academic Department) shall have power:

a. To elect one of its members to represent it on the Graduate Conference of the Academic Department, each branch of study being entitled to one vote in such electing;

b. To take measures for promoting the educational administration of the branches of study embraced within the disvision;

c. To make recommendations to the Academic Faculty and to the Graduate Conference of the Academic Department respecting the award of honors and prizes, and other matters which affect any of the branches of study embraced within the division.

Section V. The Graduate work of the Academic Department shall be under the direction and control of a body to be known as the Graduate Conference of the Academic Department, which shall consist of a representative chosen from and by each of the several divisions of the Academic Department, who shall hold office for a term of two years, beginning on the first Thursday in June and who shall be eligible for re-election. This conference shall elect from its own members a chairman and a secretary. On the date of the first organization of the Graduate Conference under this section, the members shall be divided by lot into two groups of three members each, the term of the first group expiring in one year and that of the second group expiring in two years. After this year, three members of the Conference shall be elected annually.

Respectfully submitted,

JOHN PICKARD,

Acting Dean.

IV. THE TEACHERS COLLEGE.

REPORT OF THE DEAN.

To the President of the University of Missouri:

Sir:—I have the honor to submit herewith a report on the reorganization of the Department of Education, and to state briefly the plan on which the Teachers College has been organized to take its place:

During the University year just closing the Department of Education has been reorganized and developed into a Teachers College, with a four years' course of study leading to the degree of Bachelor of Science (B. S.) in Education. The College will also confer Teachers' Certificates authorizing the holders to teach for life or for two years within the State of Missouri, the length of time for which the certificate is awarded depending upon the amount of training which the student has received in academic and professional lines. These certificates will indicate whether the holder is fitted to teach in the elementary schools or in the high schools, and, if in the latter, what subject or subjects in particular he is qualified to teach.

The distinctive feature of the work in the Teachers College will be the study of the history of education, educational psychology, theory and practice of teaching, and school administration, combined with actual practice in teaching, under guidance and observation of the teaching of experts in all grades of school work. No one will be awarded a Life Certificate until he has made a careful study of educational problems and has demonstrated, by actual practice, his ability to teach; but a certificate good for two years may be awarded to persons of less professional training and experience upon the completion of certain minimum courses of study. By further study in the Teachers College, either in the regular or the summer session, and suc-

cessful experience in teaching, the Life Certificate may, in due time, be secured.

These certificates will be awarded not only to graduates of the Teachers College, but to A. B. graduates of this University and others of similar standing who have pursued in the Teachers College the courses of professional study and practice required of its graduates. In general, the equivalent of about one year of professional training will be required of graduates of colleges of the Missouri College Union. This requirement may be fulfilled, either in whole or in part, by attendance at the Summer Session, when the work in educational theory and practice is strongly represented. Graduates of Colleges and Normal Schools who desire to work for the degree of Bachelor of Science in Education will be given such advanced standing as their previous course of training entitles them to.

In order to carry out the purposes for which the Teachers College was organized, the Board of Curators of the University has established a Practice School, and employed three Professors of Education, each representing a special phase of the work. There has also been appointed a Faculty for the instruction of teachers in the best methods of teaching Agriculture and Horticulture, Botany, German, Manual Training, Music, and other branches of school instruction. Thus the professional training offered will be concrete and practical, and adapted to the needs of teachers in all grades.

Situated as it is in the midst of all the libraries and laboratories of the State University, the Missouri Teachers College should be able to offer better facilities for the training of teachers than any such institution on a separate foundation could. All the resources of the College of Liberal Arts and of the College of Agriculture will be at the service of its students. The instructors of the Teachers College will arrange their courses with

a view to the needs of teachers, and teachers' courses in other departments can be provided when there is a demand for them.

The Teachers College will open on June 1, 1904.

Respectfully submitted,

A. Ross Hill, Dean.

V. THE DEPARTMENT OF LAW.

REPORT OF THE DEAN.

To the President of the University of Missouri:

Sir:—The first Law class to enter after the announcement of the three years' course—the last that could complete the course in two years—numbered 79, the largest up to that time in the history of this department. Of these 72 graduated in 1902. The class which entered in the fall of 1901—the first to confront the three years' course—numbered only 60, and a smaller proportion has continued the course, for, at the beginning of the second year (1902), it numbered but 37. All of these, however, with two exceptions, returned in the fall of 1903 and with three others who entered this class either from former years or from other schools, will graduate in June next.

The class entering September, 1902, numbered 53, and of these all but ten entered in September, 1903, for their Junior or second year. Last fall, however, showed an extraordinary advance, no fewer than 125 new students entering the department, the total enrollment in all the classes being now 196, as against 111 at the end of last session. Of these 150 are registered from Missouri, 8 from Iowa, 8 from Illinois, 4 from Arkansas, 3 from Kentucky, 3 from Indian Territory, 2 from Oklahoma, 2 from Nebraska, 2 from Pennsylvania, 2 from Virginia, and one each from Alabama, California, Florida, Louisiana, Massachusetts, Mississippi, Montana, New Jersey, New York, Ohio, Tennessee, and Wyoming.

Of these, only nine, I regret to say, had received an academic degree prior to entering this department.

The increase in the enrollment in this department this year and the further increase which we may reasonably expect next fall, calls attention to the accommodation which the law building

offers. It was not built for any great future increase but for the needs of the day. Only one of its class rooms will hold more than seventy-five students. The Library room has been long outgrown and it is only by adding to it two small rooms originally intended for office or quiz rooms that we have been able to get shelf room for the recent accessions of books.

The accommodation for books, however, is better than the accommodation for the users of books. The rooms are now crowded and will be more so next fall. Either a new building or an extension to the present building to contain a fire-proof library room and two large class rooms, is essential. The fire-proof library wing is imperative on another account, viz.: the danger of fire. The destruction of the books now in the law building would be a great misfortune, as it would take years to duplicate the present collection.

Important changes in the law faculty have taken place during the past year. In September, 1903, Edward W. Hinton, LL. B., was appointed to the vacancy occasioned by my transfer to the Deanship of the Department. Professor Hinton graduated from this Law School in 1890, receiving the degree of LL. B. from Columbia College a year later. Since then he has been engaged in the active practice of his profession in this State. He was strongly recommended for the position by the judges of the State Supreme Court and of the Court of Appeals and by a very large number of the leading lawyers of the State. His experience as a practitioner renders him especially qualified for the chair to which he was appointed, that of Pleading, Practice and Evidence.

The vacancy caused by the resignation of Professor James A. Yantis, was filled in September, 1903, by the appointment as Professor of Equity, and Real Property, of Vasco H. Roberts, LL. D., of the Law School of Drake University. Dr. Roberts began the teaching of law in 1901, after spending several years

at Heidelberg and doing special work in Munich, Berlin and Vienna. He obtained the degree of Doctor of Laws from the University of Heidelberg in 1900.

The appointment of another teacher in law, to begin his work next September, is welcome to both faculty and student, but it leaves the school still with fewer teachers than any school of its size and rank in the country.

After the increased enrollment this year, the two matters of progress in which this department feels most interested are the library and the Practice Court.

The law library was almost entirely destroyed in the fire of 1892. For the next ten years with small legislative appropriations and no income from fees it was slow in expanding. The appropriation by the legislature of 1901 of $5,000, and in 1903 of the same sum, together with the Library fee of $10 per student, established in the fall of 1901, have done wonders. From a very incomplete collection of the American Reports and a few stray volumes of English Reports and text-books, which was all the library possessed in 1900, we have now almost all the English Reports, all the Federal Reports and the reports of all the American States except Mississippi and a part of Alabama. In legal periodicals we have sets of the most important publications and a collection of selected cases covering most of the field of the law. In Nisi Prius trials we have made a good beginning. An appropriation of $10,000 by the next Legislature will enable us to stand second to none of the law schools of the West in equipment for the study of the law and legal research.

During the past year a beginning has been made to place upon the walls of the Law Building a carefully selected collection of portraits of the judges and lawyers of England and America who have done most to forward and direct the development of Anglo-American jurisprudence. It is hoped that the students of the school, thus becoming familiar with the faces of

these men, will more clearly realize that law is a living science and may perhaps, be helped thereby in their own professional aspirations. The portraits are the best etchings and engravings that can be obtained. The collection, at present, includes pictures of Lord Chancellors Eldon, Thurlow, Cottenham and Camden; Chief-Justices Tindal and Campbell; Chief-Justice John Marshall, Justice Benjamin R. Curtis; Chancellor James Kent; Chief-Justice Shaw; Judah P. Benjamin, and Daniel Webster. It is the intention to continue additions to this collection as rapidly as suitable portraits can be found.

The transfer of legal education from the office to the law school has resulted in a great advance in thoroughness. Nevertheless there has been on the practical side a serious loss, for the law students of the American law schools, though they leave the school at the end of their course with an excellent knowledge of the principles of the law, find themselves at the threshold of their work with hardly an idea of the machinery of the courts, and the methods of conducting a cause before a judicial tribunal. The law school graduate to-day has to meet questions of pleading and practice as soon as he reaches the bar. To send law students to the bar with no training in the principles of our present day system of pleading and their practical application is too much like sending out doctors with no experience in a clinic. It is bad for them, bad for their clients, and bad for the profession. The wretched waste of time over the pleadings in our trial courts, with consequent delay and miscarriage of justice is of itself a striking testimony to the need of a better training in civil procedure. This training can no longer be obtained in our law offices because everything in the modern law office goes through the typewriter and because the time has gone by when a lawyer in full practice can take a class of students in his office and be their teacher. In addition to this I would point out that the sys-

tem of pleading in the code states is in its principles not a local system and the tendency in a law office is to provincialize all questions of procedure. It is hardly possible for a student who gets his training in code pleading chiefly in a law office to understand the full scope and bearing of the principles of code pleading which he meets in the court house.

As practically all of our law students go directly from the law school into practice; without serving a preliminary clerkship in a law office, it is incumbent upon a law school, especially one whose diploma admits to the bar without examination, to provide that instruction in pleading and practice which formerly the student obtained in the office of a practicing attorney. To accomplish this a Practice Court was established in this Department last fall and placed under the charge of the Professor of Pleading, Practice and Evidence. Instruction in the principles of Pleading and Practice, and the relation of those subjects to the Substantive law, is followed by a careful study of the code of civil procedure, the preparation of pleadings and motion papers and the argument of motions. The student is not only taught the principles of procedure in all its branches, but he has a court of his own where he may elect his remedy or select his defense, sue out process, draw pleadings, prepare instructions and directions, argue questions of law, frame record entries, save exceptions and preserve them in the record and take the case up on error or appeal—all under the instruction of a teacher skilled in the procedure of the courts of this State.

The establishment of this practical addition to the work heretofore done in the Law Schools is, in my opinion, the most important event of the past year in this department and its development can not fail to be watched with interest by the bench and bar of the State.

Respectfully submitted,

JOHN D. LAWSON,
Dean Department of Law.

VI. THE MEDICAL DEPARTMENT.

REPORT OF THE DEAN.

To the President of the University of Missouri:

Sir:—Permit me to submit my annual report as to the condition of the Medical Department for the year 1903-'04.

During the year the facilities for study in the Department of Internal Medicine have been increased by the addition of a well-equipped laboratory for clinical pathology. This laboratory consists of apparatus for the study of sputum, blood, urine, feces, etc. It is also provided with microscopes, microtomes and other apparatus, for section work on new growths and the demonstrations of pathological conditions in conjunction with clinical manifestations. This department is under Dr. W. J. Calvert, Instructor in Internal Medicine (Physical and Clinical Diagnosis).

The efficiency of the instruction in the Physiological Department has been greatly strengthened by the opening of our laboratories and courses for Physiological Chemistry.

Dr. Waldemar Koch, a physiological chemist of established reputation and also a physiologist and pharmacologist of ability and skill, has been appointed Assistant Professor of Physiological Chemistry and Pharmacology. Dr. Koch assumed his duties January 1, 1904.

A research laboratory and office and a general laboratory for Physiological Chemistry have been opened with sufficient equipment to carry on the work of the courses. In the former we have added certain valuable pieces of apparatus, viz.: an apparatus for the determination of the methyl group (devised by Dr. Koch), high grade vacuum drying oven, a large vacuum pan with gauge and pump, a Sartarius balance and set of standardized weights; also a set of quantitative glassware. The general laboratory has the usual sets of student apparatus and furniture

but we have been fortunate in the general convenience of arrangement which contributes in no small measure to the efficiency of the work of both students and instructors.

Two pieces of expensive recording apparatus, a Ludwig's smoked paper Kymograph and a Ludwig's continuous paper Kymograph, have been purchased. These pieces provide for the mammalian circulation work and are in constant use. The Cambridge Scientific Instrument Company, Lmt'd, of England, have contributed several pieces of apparatus on condition that we exhibit same at St. Louis. These pieces are, a rocking microtome, three Brodie's bellows tambours, one Brodie's lung and one spleen incometer.

Dr. Carl Sneed was appointed assistant to the Laboratory of Pathology and Bacteriology for one year, giving most of his time to Bacteriology, which position he has filled with credit.

Dr. C. M. Jackson, Professor of Anatomy and Histology, spent the year abroad, but will be in charge September 1, 1904. During his absence Dr. E. T. Bell was acting Instructor (in charge), which position he filled to the satisfaction of the Medical Faculty. Dr. Bell has been given a permanent appointment as Instructor in Anatomy and Histology. Mr. C. O. Giese, Mr. W. H. Goodson, Mr. O. R. Gullion and Mr. C. C. DuBois were appointed to aid Dr. Bell.

The Parker Memorial Hospital has been more thoroughly equipped. Five new rooms have been furnished and equipped for wards and rooms for our nurses. The clinical features of this Hospital have been greatly enlarged and improved. The out-door department is well equipped and managed. Over 1,500 patients have been treated as out-door clinics this year. The floor of the Busch Clinical Amphitheater has been tiled, the walls have been burlapped, sterilizers, wash-basins, etc., have been installed. Dr. C. A. Good has resigned—his resignation to take effect September 1, 1904. The Hospital will be managed by

Internes of our own making. Dr. Thornton E. Moore, who has been Junior this year, will be Senior from September on, and Dr. Harry R. Haas will be Junior Interne. These positions are very desirable to our student corps. The Hospital staff have systemized our clinics better, so the students receive better results, by dividing our classes into sections of two. These sections are daily taken into the wards for instruction and are made to carefully examine patients and keep a record for their reports.

Asylum No. 1, at Fulton, Missouri, has furnished us great clinical advantages this year. Our Senior class has had free access to the wards of said Asylum under the guidance, not only of our Faculty, but also the experienced Asylum staff. The Superintendent and staff give much of their time for the benefit of our Senior class, thus filling a long-felt want of the profession for the Asylums of this State to aid in the solution of the much vexed question of nervous diseases. This combination adds great strength to our clinical system and also renders a service to the Asylum.

The Training School for Nurses has been in operation over a year. Young women are trained here, scientifically, theoretically and practically, to nurse. Three years' time is required. The Hospital staff give lectures; the Superintendent of the Training School gives bedside instruction. Miss Sophie L. Evans is Superintendent and has proved herself to be a lady of superior worth. The Hospital has proved a great safeguard to the student life at the University.

Respectfully submitted,

A. W. McALESTER, Dean.

VII. COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

REPORT OF THE ACTING DEAN.

To the President of the University of Missouri:

Sir:—I have the honor to submit the report of the work of this College for the year ending June 1, 1904.

The College of Agriculture has made rapid progress during the year. The teaching force has been largely increased, and the equipment of laboratories and construction of new buildings on the farm has made it possible to give better instruction in all departments.

CHANGES IN THE FACULTY.

The following changes and new appointments were made during the year:

H. J. Waters, Dean and Director, has been absent on leave since May 1, 1903, to perform the duties of Superintendent of Agriculture for the Missouri Commission at the Louisiana Purchase Exposition.

F. B. Mumford, Professor of Agriculture, has been Acting Dean and Director from May 1, 1903.

Dr. Paul Schweitzer, who was absent on leave during the year 1902-'03, returned to take up the duties of his position September 1, 1903.

E. B. Forbes, of the University of Illinois, was appointed Assistant Professor of Animal Husbandry from September 1, 1903.

George I. Reeves, of the University of Illinois, was appointed Instructor in Entomology from September 1, 1903.

Robert J. Foster, of Cornell University, Instructor in Veterinary Science from September 1, 1903.

W. L. Howard, of the University of Missouri, was promoted from Assistant to Instructor in Horticulture, his duties beginning September 1, 1903.

Howard S. Reed, of the University of Michigan, has been Instructor in Botany since September 1, 1903.

Dr. R. M. Bird, of Johns-Hopkins University, who was Acting Chemist during the absence of Dr. Paul Schweitzer, has been retained as Instructor in Agricultural Chemistry.

E. H. Favor, of the University of Missouri, was appointed Assistant in Horticulture to succeed W. L. Howard.

M. W. Harper, of the University of Ohio, was appointed Assistant in Agriculture to succeed E. L. Shaw, who resigned to accept a better position in the New Hampshire College of Agriculture.

Miss Jane A. L. Zabriskie resigned in June, 1903, as instructor in Household Economics to take a better position in Chicago. The vacancy was not filled and no work has been done in this Department during the session.

NEW BUILDINGS.

A new feeding barn 300 feet long by 30 feet wide has been erected on the College Farm. This building has been divided into fifteen compartments and these with the yards adjoining are used exclusively for cattle feeding experiments. The barn is equipped so that each lot can be conveniently supplied with water. A feeding alley five feet wide runs the whole length of the building. This feeding barn cost $2,500. A new sheep barn 55x35 feet has been completed at a cost of $1,400.

The old barn on the Horticultural grounds has been torn down and a new horse barn with convenient sheds and yards has been erected. The plans are now being drawn for a $10,000 cattle barn which will be completed during the summer.

The appearance of the College Farm has been greatly improved by the erection of about 1,000 rods of new fence, and the destruction of numerous old and decaying sheds.

NEW EQUIPMENT FOR LABORATORIES.

Each of the laboratories in the College of Agriculture has added greatly to its efficiency by increased equipment. The new buildings for Horticulture, Entomology, Botany, Dairy Husbandry and Animal Husbandry have been equipped and have been in constant use during the year.

The efficiency of the instruction in Animal Husbandry has been greatly increased by the addition of typical specimens of the leading breeds of live stock. The additional animals already purchased include two Shorthorn and two Hereford cattle; two Hampshire, two National Delaine and two Rambouillett Merino sheep; one Poland China, two Duroc Jersey and two Berkshire swine.

The Department of Dairy Husbandry has equipped a laboratory for dairy bacteriology and has also completed its equipment for thorough instruction in the manufacture of butter and cheese.

The laboratories in the Department of Agricultural Chemistry have been refitted during the year.

STUDENT ACTIVITIES.

The agricultural students have started the publication of a students' paper called "The Missouri Agricultural College Farmer." The purpose of this paper is to disseminate the results of investigations conducted here and is primarily intended to interest the young men living in the country in the work of the College. This paper is a credit to the editors and is designed to become an important factor in the student life.

The students now maintain an organization called the Agricultural Club which has a large membership. There has also been organized during the year a Horticultural Club.

AGRICULTURAL SUPPLEMENT.

The College has co-operated during the year with the Publisher's Department of the University in the issuing of an Agricultural Supplement. These supplements contain original matter and the results of important experiments which have been completed. These supplements have been used by the county papers of the State in their weekly issues. More than 100,000 copies have been distributed in this way. This method of bringing the work of the College directly to the attention of a large number of country people has been unusually successful.

EXTENSION WORK IN AGRICULTURE.

There continues to be a constant and increasing demand for extension work in agriculture. The demand expresses itself in at least three directions.

First. The teachers and Experiment Station workers are in constant demand to lecture before Stock Breeders, Horticulturists, Dairymen, and Farmers Institutes. During the year the Instructors in the College of Agriculture have delivered one hundred lectures at Farmers Institutes in co-operation with the State Board of Agriculture. In addition to these, twenty-five lectures have been delivered at the meetings of miscellaneous agricultural societies.

Second. There is an insistent demand for publications upon the subject of Agriculture for use in the Public schools. Frequent requests are also received for our men to give courses of lectures on Agriculture in the Public schools. It is impossible for the present teaching force to supply these demands.

Third. The College and Station has become a recognized bureau of information upon all subjects pertaining to advanced

agricultural practice. The correspondence of each of the technical departments has grown rapidly during the year.

LOUISIANA PURCHASE EXPOSITION.

The departments of Agronomy, Animal Husbandry, Dairy Husbandry, Horticulture, Entomology and Veterinary Science have contributed to the general University exhibit of the Louisiana Purchase Exposition. These exhibits have been prepared with very great care and are creditable to the departments concerned.

SHORT COURSES IN AGRICULTURE.

The total enrollment in the short courses for 1904 was 72. This is sixty-six per cent greater than the highest enrollment in any previous year. Some changes were made in the courses which added to their efficiency. There are now offered three distinct Courses: one in Plant Production including Horticulture, one in Animal Husbandry, and one in Dairying. The enrollment was distributed in the different courses as follows:

Plant Production 19. Dairy Husbandry 12. Animal Husbandry 41.

ENROLLMENT IN THE SCHOOL OF AGRICULTURE.

The enrollment in the School of Agriculture, not counting those in the Department of Household Economics, has shown a gratifying increase. The total enrollment for the session 1902-3 was 125. The total enrollment for the session 1903-4 was 147.

AGRICULTURAL STUDENTS

	Gr.	Sr.	Jr.	Soph.	Fr.	Sp.	S. C.	Total
1902-3	—	5	8	15	20	29	48	125
1903-4	1	5	13	12	24	20	72	147

REPORT OF THE EXPERIMENT STATION.

The Experiment Station has continued to occupy itself chiefly with experiments in Animal Husbandry, Horticulture, Agronomy, Entomology, Agricultural Chemistry and Veterinary Science. The Station has published four bulletins during the year as follows:

Bulletin No. 60. A New Bordeaux Powder.
Bulletin No. 61. Apple Growing in Missouri
Bulletin No. 62. The Hession Fly.
Bulletin No. 63. Commercial Fertilizers.
Annual Report for 1903.

Fertilizer Control.—The last General Assembly repealed the old Missouri Fertilizer Law and enacted the present statute which requires that all fertilizers sold in the State be registered in the office of the Director, and that samples of these fertilizers be collected in the open markets and analyzed by the Station to determine their composition. The law also requires that each manufacturer shall affix to each package of fertilizer a label upon which is printed the guaranteed chemical composition, and to affix a tag furnished by the Director which indicates that the brand in question has been duly registered according to law. This law has been eminently satisfactory both to the manufacturers and to the farmers of the State.

Co-operative Experiments with the United States Department of Agriculture.—The United States Department of Agriculture is now co-operating with this Station in a large cattle feeding experiment in which eighty head of cattle are being fed continuously throughout the year. This experiment has already attracted considerable attention and is destined to yield results of very great value.

The United States Department is also co-operating with us in determining the best methods of growing alfalfa in Missouri.

The results of our investigations have brought out the fact that Missouri can grow large crops of alfalfa if certain conditions are fulfilled.

Co-operative Experiments with Farmers.—The value of the work of the Experiment Station to the State will always be measured by the economic importance of its discoveries to agricultural practice. It is of little consequence to the State how many important discoveries are made here if these results can not be applied in practice. The function of the Station is not only to make discoveries, but also to use every means within its power to apply these on the farms of the State. Experience has shown that some effort must be made to demonstrate directly to farmers the application of many of the most important discoveries.

During the past year this Station has successfully carried on this work of demonstration in several different directions.

1. Co-operative experiments with corn fertilizers have indicated that these may be profitably applied in this State under certain conditions. Experiments on various soils widely separated have shown that phosphoric acid is more often efficient in increasing the yield of corn than any other fertilizing material.

2. The Veterinary Department has continued its work of inoculating cattle against Texas Fever.

3. The losses of cattle from Blackleg in the State amount to thousands of dollars annually. Vaccination is a sure preventive of this destructive disease. Our Station has now completed arrangements with the United States Department of Agriculture for sending out Blackleg Vaccine to the stockmen of Missouri.

4. The Department of Entomology has continued distributing chinch bug infection, which has been helpful in preventing the ravages of the chinch bug.

5. Inoculated alfalfa seed, with directions for sowing, has been distributed to about one hundred farmers, representing all sections of the State.

6. The Department of Agricultural Chemistry analyzes fertilizers sent in by farmers and is thus able to protect them from fraud in the purchase of these materials.

In addition to the above every department of the Experiment Station has been ready at all times to assist by giving expert advice to farmers whenever such help has been solicited.

THE SCHOOL OF ENGINEERING.

As measured by increase in enrollment, increase in teaching force, and by the thoroughness and effectiveness of the work done, this has been a prosperous year for the School of Engineering.

Changes in the Faculty:

Since the last report of Dean Waters, of a year ago, there have been the following changes in teaching force:

Howard Burton Shaw, B. C. E., A. M., has been appointed Junior Dean of Engineering for one year, beginning September 1, 1904.

Mr. Luther Marion Defoe, A. B. (Harvard, '93), formerly Assistant Professor of Mathematics in the Academic Department, has, after a year's absence in study abroad, taken up his work as Professor of Mechanics.

Mr. Abraham Lincoln Hyde, Ph. B. (Yale, 1886), was appointed Assistant Professor of Civil Engineering in June, 1903. He has been in charge of Bridge Work throughout the year.

Mr. Jacob H. Wallace, B. S. in M. E. (University of Illinois, 1903), was appointed Instructor in Mechanical Engineering in June, 1903, to succeed Mr. C. W. Hodson, resigned.

Mr. Lloyd Carlton Nicholson, A. M., B. S. in E. E. (University of Missouri, 1902), was appointed Instructor in Electrical Engineering in August, 1903.

Mr. Thomas Jackson Rodhouse, Instructor in Drawing, has been absent on leave during the year, pursuing graduate studies at Cornell University. In his stead, Mr. William Benjamin Rollins, B. S. in M .E. (University of Missouri, 1903), has been Acting Instructor in Drawing.

Mr. Ernest Franklin Robinson, B. S. in C. E. (University of Missouri, 1903), was appointed Assistant in Drawing, July, 1903.

Further assistance in Drawing was found necessary last September, after the opening of the first semester, so Mr. William Neal Winter was selected as Student Assistant in Drawing for the first semester.

Mr. F. W. Baender was reappointed Student Assistant in Shop Work and Mr. A. W. Spaht has been Student Assistant in Shop Work in place of Mr. Wray Dudley, who resigned to continue his Engineering studies.

Messrs. E. S. Maupin and W. J. Spalding have been Student Assistants in Surveying, succeeding Messrs. F. C. Magruder, R. C. Cochel, and E. F. Robinson.

Curriculum:

There have been only slight changes in the studies required in the Civil, Electrical, and Mechanical Engineering Courses, and these only in the nature of rearrangements. These courses seem now to be fairly well organized, and attention has been given chiefly to strengthening and broadening the individual subjects of instruction.

The Course in Chemical Engineering is developing very slowly, as it will probably continue to do, until more specialized instruction is provided for it. Considerable thought has been given to the rearrangement of the course, but no definite action has been taken. Certain changes are necessary, and these will probably be made shortly.

I regret to state that efforts to formulate a six year combined course, leading to the degrees, A. B. and B. S. in Engineering, have not succeeded. However, owing to the amount of Academic work required in the Engineering Courses, it is possible for a student to secure the two degrees in six years, by a careful selection and arrangement of studies.

After this year, Graduate work in Engineering is to be directly under the jurisdiction of the Engineering Faculty, instead of under the Graduate Committee as formerly.

We hope to be able to thoroughly systematize this work and adapt it to the conditions.

Students:

The tables which follow give a comparative idea of the enrollment in 1902-'03 and 1903-'04.

TABLE I.

ENGINEERING STUDENTS, 1902-'03.

	Gr.	Sr.	Jr.	So.	F.	Sp.	Total
Civil Engineering.....	1	16	22	26	33	4	102
Electrical Engineering..	4	8	16	23	30	2	83
Mechanical Engineering	3	7	10	7	8	3	38
Chemical Engineering..	....	....	1	1	.....	....	2
Totals	8	31	49	57	71	9	225

TABLE II.

ENGINEERING STUDENTS, 1903-'04.

	Gr.	Sr.	Jr.	So.	F.	Sp.	Total
Civil Engineering	4	17	23	23	39	5	111
Electrical Engineering..	1	6	23	26	47	6	109
Mechanical Engineering	4	11	7	9	13	2	46
Chemical Engineering..	....	....	1	1	1	.....	3
Totals	9	34	54	59	100	13	269

The increase in enrollment is 44, or about 20 per cent increase over that of last year. Judging from this and from the growth in previous years, it seems probable that an increase in teaching force and in facilities will be necessary in the near future.

It is interesting to note, in this connection, that comparatively few students failed to pass in the work of the first semester this year. This seems to show that the High Schools are meeting the entrance requirements more fully than formerly.

In view of this, it has been thought advisable to declare our intention to increase the entrance requirements from 12 units to 14 units in the fall of 1905-'06.

Laboratories and Equipment:

Fifteen thousand dollars was appropriated by the last General Assembly for the better equipment of the Engineering Laboratories, the amount to come from funds collected under the Collateral Inheritance Tax. This appropriation has not materialized, except that a small sum, about $600 each, for Civil, Electrical, and Mechanical Engineering, was made available from this source.

No one who knows the conditions can doubt that the steady growth of the School of Engineering means an increasing demand for thorough technical training in Engineering.

This growth has been, in part at least, due to the provision of better facilities for instruction. It would seem the part of wisdom to meet this demand and promote this growth by providing more adequate equipment.

Forty thousand dollars seems a small enough sum to ask for this purpose.

F. B. MUMFORD,
Acting Dean and Director.

VIII. THE SCHOOL OF MINES.

REPORT OF THE DIRECTOR.

To the President of the University of Missouri:

Sir:—As Director of the School of Mines and Metallurgy, I submit the following report for the year 1903-'04:

ATTENDANCE.

The total enrollment for this school year is one hundred and ninety-four, while last year it was two hundred and nine. In spite of the falling off in enrollment there has been an increase in the attendance so far as the regular courses are concerned, and the number of students in continuous attendance has been larger than ever before. The loss occurs among special students, local students, or those from Phelps county, and in the number of graduates enrolled for the full degree.

The following table, a part of which was given in my report of last year, will enable you, by comparison, to ascertain the present condition of the school so far as attendance is concerned:

	1895-'6.	1902-'03.	1903-'04.
Total enrollment	72	209	194
First two weeks	50	172	178
Women	13	4	3
Per cent of women enrolled	18 1-2	2	1.5
Men	59	205	191
Other States and countries	20	87	89
Per cent of local attendance	42	12	8.7

We have this year by far the largest Senior class the school has ever had—the number of Seniors being twenty-eight. There are forty men in the Junior class. This is the largest Junior class in the history of the school. There are but eight graduate students this year whereas last year there were nineteen. This falling off is in part the result of the increased work required of graduate students, and in large part because of the general activity in the country in mining and metallurgy—the demand for

trained men having been greater than ever before. The school continues to draw its students from a wider field each year, and to lose in the number of local students. The following table shows the attendance by states, countries, and counties in Missouri:

ATTENDANCE BY STATES AND COUNTRIES.

Arizona	3
Arkansas	2
California	2
Colorado	12
Florida	1
Idaho	1
Illinois	7
Indiana	3
Indian Territory	1
Iowa	8
Kansas	10
Kentucky	1
Michigan	3
Missouri	105
Nebraska	3
New Mexico	1
Nevada	1
New York	5
North Dakota	1
Ohio	3
Oklahoma	1
Pennsylvania	4
Rhode Island	1
South Dakota	1
Tennessee	3
Texas	3
Utah	1
Virginia	1
Wisconsin	1
Total	189

FOREIGN COUNTRIES.

Trinidad	1
Mexico	3
West Indies	1
Total	5
Total	194

MISSOURI BY COUNTIES.

Adair	1
Barry	1
Bollinger	1
Cape Girardeau	1
Clinton	4
Cole	1
Crawford	1
Dade	1
Dent	1
Franklin	2
Greene	3
Grundy	1
Harrison	1
Howard	1
Iron	2
Jackson	15
Jasper	3
Jefferson	2
Johnson	1
Laclede	2
Lawrence	3
Linn	1
Newton	1
Nodaway	3
Pettis	2
Phelps	17
Pike	2
Randolph	1
St. Louis City	20
St. Louis County	5
Vernon	1
Texas	1
Webster	2
Taney	1
Total	105

TEACHING FORCE.

The following changes have taken place in our teaching force during the past year: Mr. Ira Wright McConnell, Professor of Civil Engineering, resigned to accept a position with the United States Geological Survey, in charge of irrigation works in Colorado; Mr. Elmo Golightly Harris, who had formerly been a member of our Faculty, was appointed to the vacancy; Mr. James Clark Draper was appointed to the chair of Mining Engineering, with the title of Assistant Professor. Mr. Hermann Otto Schulze, Assistant Professor of Metallurgy, ceased to serve the School of Mines in the summer of 1903. A chair of Metallurgy was created by the Board, but after much search it was found impossible to secure a man for the position, with the funds at our command. Good metallurgists receive large salaries in professional work, and it is difficult to secure one who has the requisites for successful teaching, together with the proper technical training, at a salary which can be paid by a state institution. During my search I discovered that eleven educational institutions were seeking for a professor of metallurgy. Failing to fill this chair we were very fortunate to secure the services of H. O. Hoffman, Professor of Metallurgy at the Massachusetts Institute of Technology, as special lecturer. Prof. Hoffman, on leave of absence from his own institution, delivered to our students a course of fifty-four lectures, giving eminent satisfaction and saving us from a very embarrassing situation. Mrs. J. D. Carpenter, Librarian, resigned last June, and Mr. Leon Ellis Garrett was appointed Librarian and Registrar.

Some changes have been made in our corps of assistants, as reported to you from time to time.

Our teaching force is still too small, and two new instructors should be appointed for the next school year.

DISCIPLINE.

The conduct of the students at the school has continued remarkably good during the year. There have been no serious breaches of discipline, and there have been but few students dropped from the roll on account of poor work.

CAMPUS.

But little work has been done on our campus during the past year, because of lack of funds. A few new trees and some shrubs have been set out. All the young trees, and the vines on the buildings, are thriving, and in a few years will add greatly to the attractiveness of our grounds.

The city council of Rolla has agreed to close the street between the newly purchased building site and the old campus, and also the street between the old campus and our athletic field, provided the School will put in good repair the roads adjacent to our campus which would have to be traveled by teams going to and from the country as a result of the closing of this street. Our Executive Committee has decided to accept this proposition, but owing to lack of funds we have as yet been unable to comply with our part of the contract.

BUILDINGS.

The new engineering building, Norwood Hall, has been completed and the heating plant installed. The administrative offices of the School are now located in this building and the departments of Geology, Physics, and Civil Engineering have been moved there. This removal was delayed until the first of this calendar year on account of the non-arrival of the engine, dynamo and motor, which were ordered last summer, and which were necessary for the operation of the heating and ventilating fan.

At the present time repairs are in progress in the east half of the Rolla building, which has been assigned to the State Geological Survey under an agreement between our Executive Committee and the Geological Board. It is probable that within a few weeks the geological survey and its equipment will be installed in this building, where it will have more convenient quarters than in the old Club House.

Work on the second story, in the interior of the mechanical building, has been completed, and it has been divided by partitions (which are constructed in sections and removable) into three rooms, the south room being used for shop work, the central room for temporary gymnasium, and the north room for mechanical drawing.

EQUIPMENT.

Although the last Legislature made a liberal appropriation to the School for the completion of buildings and for their equipment, the income from the Collateral Inheritance Tax, from which fund the appropriation was made, has been so small that up to the present time we have been unable to pay in full the contractors who installed our heating plant and completed the interior of the buildings. We have, therefore, been unable to purchase much in the way of equipment and the new lecture rooms are seated only with temporary chairs rented from a furniture company. We have, however, made at the School, a sufficient number of modern drawing tables for the advanced students in mechanical drawing and designing, and have remodeled the benches in the wood working shop, and we have also added a few new instruments in various departments where they were most sadly needed.

At the present time there seems but little prospect that the income from the Collateral Inheritance Tax will be sufficient to

do much more than finish the buildings which were completed structurally during the last biennial period.

LIBRARY.

About two hundred volumes have been added to our library during the present school year. This still occupies its cramped quarters in the Rolla building, but if funds can possibly be spared for the purpose before the next school year the library will probably be moved to Norwood Hall, where a large room will be provided with steel stacks, and another large and well-lighted room will be occupied as a reading and distributing room.

ATHLETICS.

During the present school year the athletic association has been reorganized and its work put on a better basis than ever before. Direct personal connection on the part of the faculty with the general athletic association has been found necessary for evident reasons and specially because of bad financial management which left the football team last fall with a debt of $500 or $600. All questions of finances, schedules, etc., are now decided by the board of control which consists of a member of the faculty, and the various officers of the different athletic teams. Matters of finance, schedules and players must be approved by the faculty.

The school has good baseball and football grounds, a one hundred yard cinder track and some excellent tennis courts.

Our gymnasium has almost nothing in the way of equipment and this is now one of the important needs of the school.

WATER AND GAS SUPPLY.

During the past year a new gas machine for the production of gasoline gas for our laboratories has been installed. It works satisfactorily, furnishing a good quality of gas in ample

quantities for our present demand, and it is capable of meeting our needs for a good many years to come.

Last fall a new water reservoir was built west of Mechanical Hall, with a capacity of about forty-five thousand gallons. Even with this increase our storage capacity has been insufficient to meet the needs of the institution this year, and it is the intention of our executive committee to drive a six inch well next summer, through the limestone formation and into the underlying sandstone, in the hopes of securing a good supply of soft water. If we can demonstrate that soft water can be had in sufficient quantity at a depth of a few hundred feet it is probable that the city of Rolla will put in waterworks, a greatly needed public utility.

SOCIETIES.

The societies mentioned in my last report to you, namely a Literary Society, Engineering Club, Mining Club, Student Seminar, Student Orchestra, Glee Club and Mandolin Club, are still maintained. In addition to the above organizations there are now in the School three chapters of national college fraternities—one of the Sigma Nu, one of the Kappa Alpha, and one of the Sigma Kappa.

On the whole this school year has been a very successful one. The number of students, candidates for degrees, taking our regular courses, has been much larger than ever before, and the average attendance throughout the year has been exceptionally large. There has also been a marked improvement in the quality of students from the point of view of their preliminary training; nearly all of the students coming to us having graduated from some good high school.

Our great needs are now increased equipment and a larger teaching force.

Respectfully submitted,

GEO. E. LADD,

Director.

IX. THE SUMMER SCHOOLS.

REPORT OF THE DIRECTOR.

To the President of the University of Missouri:

Sir:—In the absence of Dr. J. C. Jones, who was Director of the Summer Schools for the summer of 1903, I beg leave to submit herewith a brief statement of the work done in 1903 and to report some changes of policy inaugurated for 1904.

Last year the University conducted four Summer Schools, the Summer Session at Columbia and Branch Summer Schools at Houston, Joplin, and St. Joseph. All of these schools were under the general direction of Dr. J. C. Jones, Dean of the Academic Department. At the close of the Branch Schools and of the first term of the Summer Session at Columbia, Dr. Jones departed for Europe on a year's leave of absence, and Professor M. L. Lipscomb became Director of the Summer Session during the second term.

The total enrollment of students in the Summer Schools amounted to 639, of whom 310 were in Columbia. These figures show an increase in total enrollment of 162 over the summer of 1902 but a decrease at Columbia amounting to 99. This decrease was probably due to several causes, among them being the prevalence of floods at the time of opening the Summer Session and the fact that the maintenance of three Branch Schools enabled teachers in several sections of the state to attend a school nearer home.

The Summer Session at Columbia opened on June 1 and closed on August 28. The courses offered were of University grade and the students in attendance were of corresponding capacity. Nearly all were either high school teachers or regular students of the University. The instructors report that the class work was more satisfactory than in any previous Summer Ses-

sion. A common request on the part of the students was for more advanced courses. Of the 310 students in attendance 162 were women and 148 were men.

The Summer School at Houston opened on June 8 and closed on July 25. It was in charge of Mr. J. D. Wilson, Professor of Psychology and Pedagogy in the State Normal School at Kirksville. The students numbered 111, of whom 68 were women and 43 were men.

The Summer School at Joplin opened on June 2 and closed July 18. It was in charge of Mr. J. D. Elliff, Assistant Superintendent of Schools, St. Joseph, Missouri. The enrollment was 134, of whom 111 were women and 23 were men.

The Summer School at St. Joseph opened on June 8 and closed on July 25. It was in charge of Mr. E. B. Neely, Superintendent of Schools at St. Joseph. The enrollment was 84, of whom 67 were women and 17 were men.

Several of the courses offered in the Branch Summer Schools were of secondary school grade and a larger number of elementary school teachers enrolled in them than in the Summer Session at Columbia. The teaching force in the Branch Schools was only partially made up of University instructors while in the Summer Session at Columbia practically all were members of the regular University faculty.

For the summer of 1904 only one Summer School will be maintained by the University, that at Columbia, which is an integral part of the regular University work, being the first term of the scholastic year, and is known as the Summer Session of the University. The school will open June 2 and close August 2. Twenty-five teachers will offer 53 courses in 18 departments. All of the work offered will be of University grade and will count toward the degree of Bachelor of Science in Education. Most of it will also count toward the A. B. degree.

There were several reasons which led to the concentration of all our energies in Columbia this year. The call for more advanced courses than have previously been offered was urgent and such courses could not be provided except by the employment of a larger faculty, and this involved the expenditure of more money. The necessary funds could be secured only by abandoning the Branch Schools. Then, too, it was felt by many that the teachers of the State would profit more by a few weeks spent in residence at one of the State Institutions, than by the same period of attendance at a Branch School; accordingly the State Normal Schools and the University agreed to maintain no Branch Schools in 1904.

Another quite important change in the Summer Session is effected for 1904. Instead of having two terms of six weeks each, there will be one term of nine weeks, including registration and examinations. This period of time is selected because it is just one half of one semester, and by doubling the amount of time per week devoted to each subject a regular semester's work can be covered in each; because nine weeks seems about as long as the average teacher can afford to spend in summer work if he or she is to do efficient teaching the following year; and because this arrangement leaves the month of August free for those who wish to visit the World's Fair at St. Louis.

Respectfully submitted,

A. Ross Hill,

Director of the Summer Session for 1904.

X. THE MILITARY DEPARTMENT.

To the President of the University of Missouri:

Sir:—The total enrollment in the Military Department during the term 1903-1904 numbers two hundred and eleven cadets. The average enrollment for the preceding years is about 150.

The instruction given has been progressive as far as the time allowed and the facilities attainable would permit. Discipline is very good; at drills it is excellent.

A two years course in the Science of War has been added to the course prescribed by the War Department.

The equipment of the department is in first class condition and well cared for. During the term it has been enlarged and improved by the addition of maps, manuals, and official blanks and a number of Krag-Jorgensen rifles received from the War Department. It is desired to replace the present equipment of Springfield rifles with this modern weapon as soon as it can be supplied.

A suitable range for target practice is lacking. Gallery practice has been substituted for outdoor practice, however, and it is hoped that the University may be able to establish a good permanent range before the next target season begins.

Respectfully submitted,

W. D. CHITTY,
Captain 4th Cavalry,
Commandant.

XI. DEPARTMENT OF PHYSICAL TRAINING AND ATHLETICS.

To the President of the University of Missouri:

Sir:—I have the honor to submit the following report of the Department of Physical Training and Athletics for the period covering my administration.

By the terms of his appointment the Director was charged with the responsibility of not only the direction of the men's and women's gymnasiums, but also the care and development of the athletic fields and equipment, the instruction and training of athletic teams, and the business management involved in developing and handling such teams.

The Director has had, in the organization of the Department, the support of his own convictions in the wisdom of centralization—i. e., the organization of all that pertains to the physical training of the student body of the University under one responsible head. We believe that only by such an organization can the present serious problems connected with physical training and athletics in secondary schools and colleges be solved.

The only question raised concerning the wisdom of such centralized organization, arises in regard to the attitude and policy involved towards inter-collegiate athletic contests. Intercollegiate contests are the product of student enterprise and maintained by student interest. With their development and success the college administration has had scarcely anything to do. College faculties feel, as a rule, that it is beneath the dignity of the college as such to carry on athletic contests with other colleges through the student body.

However controlled or organized, in theory at least, intercollegiate contests must remain a students' enterprise. The enterprise, however, has developed evils which have forced college

faculties to act. First the physical fitness and condition of athletes had to be controlled, then the eligibility of candidates came in for regulation; later serious financial problems presented themselves for legislation. Usually questions of physical fitness have been placed under the supervision of the physical director. Questions of eligibility as a rule have been placed in the hands of Faculty Committees. The last named problem has yet to be regulated satisfactorily in most institutions, though it is quite generally conceded that the business management of athletic enterprises, with the freedom, opportunities, temptations and responsibilities it involved, have outgrown the capacity and stability of the majority of undergraduates. It is only a question of days until it will be taken out of their hands entirely and we will consider their management of athletic finances as ridiculous as their control of questions of physical fitness. Graduate Managers and Athletic Directors controlled by Athletic Associations, student-faculty boards and faculty committees are among the chief methods of organization that have been devised to meet the needs of this growing problem. None of these methods have the simple strength, and harmonizing influence of department control. Again the recruiting tendencies in recent years and the unsportsmanlike tactics, indicate that some higher auspices and broadening influences in athletics are needed. We believe the chief evils in inter-collegiate athletics are due primarily to the non-educational character they have assumed. Inter-collegiate contests have usurped the whole field. All interest is centered on the powerful, the skillful candidate. The weak and the inexperienced are neglected. There are no opportunities for the inexperienced or average boy to develop. Naturally material must be had from some source. If it is not developed within the ranks of the student body it must be secured elsewhere. Recruiting, the curse of present day athletics evolves: and with its evolution the educational method in the development of teams

goes out like amateurism before professionalism. Concerning the unsportsmanlike conduct, we think it is simply a product of bad instruction or no instruction at all. Department organization with the Director in absolute charge of and responsible for the physical fitness, the eligibility, the business management and the sportsmanship, we believe to be the solution for these evils, and the foundation for a larger educational development of athletics. Under these conditions there is scarcely any limit to the influence the Director can exert. Our policies with regard to all these problems will appear in this report.

POLICIES AND PLANS.

In planning the organization of the Department, the Director has attempted to lay down policies that had in them the foundation for a model college department of physical training. The centralization of power in the hands of the Director, has made this possible.

In the first place we have attempted to make our aims inclusive. All the larger values claimed for physical training and athletics we have made our aims. These aims, values, results of physical training we conceive to be as follows: Values, first to organic development which gives vital vigor and which should be secured through exercise before maturity; this must stand first in college work; second, to the correction of debilitated, diseased, and deformed bodily conditions; third, to the maintenance of health and condition; fourth, to the development of fundamental and accessory motor centers which give power and skill for action; fifth, to the discipline of intellectual, moral and social power which comes through systematic, regular exercise, drill in respect for and care of the body, and the severe discipline of team work and clean sportsmanship.

Secondly we have made our methods liberal and inclusive by a large and what seems to us sane use of athletics. The depart-

ment control of athletic activities and the athletic fields has made it possible to plan for the use of athletics as a means of exercise in an ideal relation with systematic gymnastics. Much that is unique in our plans and policies relates to the place given and the attitude assumed towards athletics: hence it is important to state our concepts of the relation between inter-collegiate contests and athletics in general and developmental gymnastics. This relation can best be revealed by defining the values of the two lines of activities.

Gymnastics are systematic, constructive, definite and easily controlled; their primary aim is organic results; games and sports produce these same results but with less precision; the sport is the aim; the exercise comes as a result incidental to the movements involved in the sport. Gymnastics give a more systematic organic development and a broader psycho-motor training. Games are better adapted for large recreative elements and carry with them a broader social discipline. Gymnastics are scientific; they can be selected or graded in a careful progression to meet all needs. Games and sports can not meet these demands, though loosely they can be arranged in a series and thus correlated with the gymnastic progression. They are, however, superior in elements of spontaneity and interest for many people; they are more attractive and exhilarating as a means of exercise. These considerations give gymnastics the fundamental and broad place in a rational physical training; athletics an accessory place with increasing importance with advancing development until they take the leading roll or divide the honors with advanced gymnastics. For the organically weak, the undeveloped, the untrained, gymnastics must be the chief means of training; for the organically sound, the normally developed, the trained, some favored form of athletics or gymnastics, within the limits of physical fitness, should be the means according to choice. First, needs; second, fitness; third, taste, should be our

consideration. The opportunity for choice is the only difficulty. In the gymnasium there is ample opportunity for range of choice in gymnastics. In athletics it is otherwise. Inter-collegiate athletics, especially in the line of the more strenuous games, have a corner on the whole field. There is in these lines practically no athletic activity apart from the work of the Varsity squad. They have divorced athletics from the means of the physical trainer. Fields, equipment, coaching are dominated by the organizations supporting the Varsity teams. They are in abundance for the strong, the skilled, the promising Varsity candidate. Unless a man has the weight or the strength or the skill to make the Varsity squad in his favorite sport he must sit on the bleachers; he is not wanted; he has no opportunity, no encouragement, no stimulus. His craving, his interest, his enthusiasm cuts no figure; what he might be in two or three years is lost sight of; his development is neglected. This should not be. A student should have the opportunity to gratify his taste for athletics. If a college student loves baseball and can get good physical results that way, he should have the opportunity to play; if he feels that football is the only game worthy of his attention and he is physically fit to secure good results from football, he should have the opportunity, though he may not have the weight or skill to make the Varsity squad. *Athletics should be organized with large opportunities for a large number.* Every boy should have a chance to "make" some team. Instead of a few students trying for a place in the highly skilled work of a Varsity team, we should see hundreds of the student body active in athletics not training for a contest but for the fun of the sport and as a means of exercise.

The place of intercollegiate contests in these larger athletic activities, is well defined. They have a legitimate and valuable function. They should be considered advanced specialized phases

of general athletic activities. The teams should represent elections of the more highly skilled athletes drawn from many teams and organized for intercollegiate contests. The student interest that maintains these contests has no consideration for the larger interests here presented. Their interest is a pure sporting interest. They pay for the sport; they are entitled to what they pay for. But there is no conflict between these viewpoints. The student sportsman wants a highly developed team, a team that can win. The department views the process professionally in the same light as a gymnastic contest, as the highest expression of a *means* of physical training. The department sees its aims realized; the student body has its sport. They are different ways of looking at the same thing. Under the auspices of the department, to provide for and to protect the general activities, and control the finances, the coaching, and the physical fitness for, and the sportsmanship in intercollegiate contests, nothing but good can come of them.

For the successful realization of these broader policies the first consideration is a department plant. The plant gives opportunities. The gymnastics, the various athletic activities for large numbers, the Varsity teams and contests all have to be provided for. In laying plans for the construction of the department plant all these interests have been kept constantly in mind. We have planned two gymnasiums, one for the men and one for the women, each at the center of two distinct series of athletic fields, courts, etc., including fields for handball, tennis, basketball and hockey for the women and fields for handball, tennis, basketball, baseball and football for the men, and a golf course for all. The gymnasium building involves two chief ideas; first, the dressing-rooms and the bath-rooms; second, the working floor. The dressing-rooms and bath-

rooms are the center of preparations for all exercise. The work on the floor of the gymnasium is the center to which all other work is related. It is fundamental at all times; it houses or substitutes work for all field activities during bad weather; it is a bad weather institution. During about half the college year it gives the only opportunities there are for exercise. During the other half or during good weather all work should be out-of-doors, in the sunshine and in the open air. This applies to systematic gymnastics as well as games. Consequently we have further planned two out-door gymnasiums.

In this general scheme for a plant we have planned the following lines of work:

A. Developmental gymnastics; 1. In drills with light apparatus and developing appliances; 2. In Swedish movements, 3. In fancy dancing steps; 4. In graded class club swinging; 5. In graded apparatus work; 6. In paced cross-country running; 7. In graded jumping and pole vaulting; 8. In graded mat work and tumbling; 9. In elementary class work in fencing, boxing and wrestling; 10. In graded balancing exercises; 11. In gymnastic games.

B. Accessory, specialized and advanced exercises (participation in depending upon physical fitness, taste and ability to pass grade tests).

1. In Gymnastics; a. Advanced Club Swinging; b. Advanced Apparatus Work; c. Tumbling; d. Balancing Work.

2. In Combative Exercises; a. Fencing; b. Boxing; c. Wrestling.

3. In Athletic Exercises; a. Hand Tennis; b. Handball; c. Tennis; d. Basketball; e. Hockey; f. Track and Field Athletics, including Cross-country Runs and the Pentathlon; g. Baseball; h. Football.

C. Contests: Regularly scheduled in each of the following lines of work.

1. In Gymnastic Events; a. Grade Ranking—first twenty-five men; b. Individual Drill contests with light apparatus; c. Apparatus contests; d. Competitive tumbling; e. Competitive Balancing.

2. In Combative Events; a. Fencing tournaments; b. Boxing tournaments; c. Wrestling tournaments.

3. Athletic Events; a. Golf; b. Handball; c. Tennis; d. Basketball; e. Cross-country Runs; f. Pentathlon; g. Track and Field Athletics; h. Baseball; i. Football.

Our methods of handling this great variety of work are simple. For all the various classes of exercises offered by the Department divisions, squads, and sections are organized by the Director, and with the exception of the work in the more complex games, are handled and instructed by leaders and captains directly from the general classes in the gymnasium. All the work in football and baseball is handled through Varsity, class or other teams controlled by captains and managing captains under the Director. The work in tennis and golf and the elementary work in track and field athletics is handled directly from the general classes as well as through Varsity, class and other teams.

PROBLEMS IN DEVELOPMENT.

In beginning the work many difficult problems had to be faced; first, there was no consciousness in the University community of what a department of physical training meant or what its administration involved; second, there was no notion in the student body of the place or the meaning in college life of either systematic gymnastics or athletics; third, the institutions of the whole Missouri Valley were saturated with professionalism, sportsmanship was out of the question and the people were disgusted with athletics; fourth, the "College Spirit" of the student body was at the lowest ebb; fifth, the problems of business management in athletics were exceedingly difficult on account of

debts accumulated by the old Athletic Association, the isolation of Columbia, and the alienated sympathies and interests of a large part of the population; sixth, the Director had no trained staff; seventh, apart from the Athletic Field there was only an excuse for a plant. With regard to most of these conditions an educational campaign had to be carried on. Taken separately any one of them would not have been difficult; combined almost insurmountable.

SPORTSMANSHIP.

The phase of the work in dealing with these problems that has attracted most attention, has been the so-called cleaning up of athletics. Our policy in this work was very simple. It consisted, first in cleaning up at home; second, in asking our neighbors with whom we had athletic relations to do likewise, refusing to schedule games with them unless they did; and finally, if they broke faith, blacklisting them.

As a basis for work the rules of the Intercollegiate Conference Athletic Association were adopted. In the adoption of these rules Kansas University and Washington University readily joined. Other colleges followed. In making contracts for games a clause was inserted providing that all players should be eligible according to the Conference rules, and certified lists containing the names of such players and signed by the Chief Executive of the College should be exchanged ten days before the date of the game. This clause, backed by our good faith, had the desired effect. We have found it necessary to blacklist several institutions, that were not disposed to be sportsmanlike or live up to their contracts.

In 1900 the disqualification of a number of men brought on the crisis that inevitably comes with a radical reform. It is unnecessary here to go into the details of this distressing struggle. The fight made by the opposition and the gratuitous abuse

heaped upon the Director and the attitude assumed by some members of the Faculty especially, had better remain unrecorded. The public has passed judgment and pronounced the struggle well worth what it cost. Even those previously most bitter in their opposition, seem to be proud of the position the University now holds over the country in its reputation for clean sportsmanship. It has been our policy to live up to the letter and the spirit of the rules adopted and do our own protesting. Each athletic candidate is required to sign an Eligibility Certificate backed by the Curators' rule stating that any man making misleading statements will be expelled from the University. Upon the data contained in this certificate and the Registrar's note, we pass upon a candidate's eligibility.

It is not, however, entirely due to our enforcement of the rules of eligibility that the University has gained its reputation for good sportsmanship. This is due largely to our treatment of visiting teams, to our policy in business dealings and to the control of the conduct of our athletes. Visiting teams have been treated as guests. They have not only been allowed such privileges as we have, but their interests and property and their feelings have been protected. In business dealings we have been businesslike, frank, generous. All the petty tricks so common in athletic business management have been eliminated. Managers seldom meet this spirit with anything but like spirit. In games we have insisted on clean sportsmanship from our players and courtesy from the spectators. During every game for four years the Director has been on the side lines to see that these principles were not violated. Radical measures and harsh had to be applied at first to keep spectators off the field of play and to keep them from applying discourteous epithets from the bleachers. The conditions in this respect have been wonderfully improved. With all the demonstrative rooting of the fall games our principles of courtesy were seldom violated.

Invariably officials for a game have been warned to be impartial. If local sympathizers they have been instructed to favor a visiting team in a doubtful decision rather than give grounds for complaint.

The sportsmanship of our teams is a product of general instructions given each season concerning their conduct. These instructions are backed by discipline ranging from a reprimand to blacklisting, which ends an athlete's athletic career. In the training room, at the training table, on the practice field, we insist on clean-mouthed manly conduct, clean tactics and good-natured comradeship. Our teams go into their games with this spirit. The number of beautifully clean games we have is remarkable. While on trips athletes are expected to do nothing that will in anyway reflect upon themselves as representatives of the athletic interests of the University, the student body or the good name of the University. Souvenir collecting is absolutely forbidden. The old hostility of railroad officials and especially of hotel proprietors has changed to one of hospitality and good will. Our teams have made splendid reputations while away from home. One of the most satisfactory results of this policy has been the absence of carousing when breaking training after our great game with Kansas in Kansas City. In this respect the conduct of the team seems also to control the student body.

RECORDS OF TEAMS.

Much criticism has been directed at our policy of "clean athletics" as the cause of Missouri's weak teams. This refers chiefly to football teams; the strength of our track teams is overlooked. Doubtless during 1900 the application of the rules crippled the team. This applies in some degree also to the team of 1901. Since then the rules have had very little effect on the strength of the teams, in so far as the disqualification of men in

the student body is concerned. The rules and our methods of enforcing them undoubtedly have prevented the importation of material. On the other hand, they were the foundation for a broader interest in athletics among the students and the development of home-made athletes who are now beginning to bring results. Furthermore the process of creating the interest and developing the athletes has been the chief factor in our growing College Spirit. The weakness of our football teams has been chiefly due to the athletically undeveloped condition of the State in those centers from which we drew our students, the ignorance of the students concerning highly developed athletics, and the lack of facilities for developing athletes.

WORK IN THE MEN'S GYMNASIUM.

Aside from the influence of the plant, two things are necessary for successful gymnasium work; conscientious, spirited, high-class instruction maintained at all times; strict regulations and quick, sharp discipline concerning hygienic habits, attendance, promptness, etc.

Lack of equipment has prevented the introduction of some of the work indicated in the outline above. Apart from the work in drills and general class exercises we have emphasized squad work in cross country running and section work on the apparatus as best suited under the conditions to get good results. The cross country runs are handled by leaders who are given a prescribed course, distance and pace. The sections on the apparatus are handled by leaders who are furnished with written lists of exercises. These lists are arranged in a progressive series so that sections gradually advance without effort or danger of injury. Our out-door facilities for gymnastics have been constantly disturbed by changes on the campus. In this respect our efforts have been disappointing. Considering our poor facilities and unhygienic conditions the results of our work

among the men have been far beyond what could reasonably have been expected. The development of the classes has been rapid and conspicuous. Unfortunately, through the lack of sufficient assistance we are unable to compile records showing this development. The high average of skill and spirit exhibited in the gymnasium, has been commended by visitors.

WORK IN THE WOMEN'S GYMNASIUM.

The work in the women's gymnasium has been a simple problem and in some respects more satisfactory. The limited physical capacities of the women narrow the lines of work and thus the needs in the way of equipment. The work is divided into first year or beginners' classes and second year or advanced classes. Marching, running, Swedish movements, light gymnastics, a few exercises on the heavy apparatus, fancy steps and fancy dancing and gymnastic games have been the exercises so far introduced. Basketball has been enthusiastically received. Five class teams practice at regular hours and have played a long schedule of interclass games. During the fall of this year equipment was secured and squads of girls assigned to the golf links and tennis courts. The experiment was a success and will be developed further. During the first semester one hour a week was given in society dancing with much benefit to the girls.

BUSINESS MANAGEMENT OF ATHLETICS.

The small population of Columbia and its extreme isolation will always make the business management of athletics in the University a difficult problem. Home gate receipts will be small, the great distances and indirect routes make the travelling expenses of the teams exceptionally heavy. These conditions cannot be remedied; they can only be met by local enthusiasm, economy and extreme care in making schedules. For the support

of competitive athletics it is our policy to depend entirely upon gate receipts. Interest in the student body and the University community expressed by gate receipts should be the limits of expenditure. There are no theoretical objections to contributions, but we do not deem it wise for the management to ask for them. With the exception of the Physical Culture Club fees for 1901-1902 and the small subscriptions volunteered by the student body to retain Mr. Murphy for the fall of 1902, and to build the new bleachers, no donations have been made by the students for the support of athletics. Up to date we have been able to pay all bills and finance the teams in a satisfactory manner. The teams are well equipped and well coached. We have equipped and run a training table plant with success. Besides this the last debt of the old Athletic Association was paid off in the fall of 1902. The financing of teams, however, is attended with no small risk inasmuch as all schedules have to be completed and contracts signed from two to nine months before the season opens. This involves considerable speculation on weather conditions, relative strength of teams, railroad and hotel accommodations, etc.

Both out of consideration of good business principles and our feeling that the athletic finances are in part a trust, we have established a very rigid business system. The chief features of this system are as follows:

First. A commissary system with commissary boxes containing all athletic suits, equipment and paraphernalia, accurately inventoried and accounted for, receipted to athletes who are held responsible for what they get:

Second. A stub order blank system serially numbered and issued with a stub duplicate, by which all bills are checked, the department holding itself responsible for no bills unless based on an order.

Third. A stub voucher check system, serially numbered,

which is at once a copy of the o.k'd. bill, a check and a receipt, and which is used to pay all bills, absolutely no cash being expended.

Fourth. A serially numbered ticket system, the number and form of which are entered in the books and accounted for as tickets or cash at the end of the season.

Fifth. A voucher form for the manager's personal expenses which he must advance.

Sixth. A serially numbered voucher receipt which is used when subscriptions are collected in the name of athletic enterprises.

Seventh. A system of books that show the absolute and total income from all sources, the absolute expenditure by voucher checks and the distribution of the expenses.

To this we have added as a basis for future schedule making, a manager's report, which gives all data concerning the arrangements, finances, etc., of every game. We have compiled a chart which shows in a condensed form the finances of each season since the fall of 1900.

STAFF.

In 1900 the Director was almost without assistance. He was everything from director to supervising janitor and mechanic. He taught twelve hours a week on the floor of the men's gymnasium and twelve on the floor of the women's gymnasium. He was general business manager of all teams and had to carry the detail management as well as the clerical work. He had to personally instruct the janitors on how to clean a gymnasium, and personally direct the work in the construction and the care of the athletic fields and their preparation for games. Fortunately, he had in Mr. Fred Murphy an assistant to coach the football team who carried the larger share of the burden in that work. During the fall Mr. Floyd Tuttle was appointed

student assistant in the men's gymnasium and Miss Norvell acting student assistant in the women's gymnasium. In February Miss Helen Bender, of Ann Arbor, was appointed instructor in the women's gymnasium. The Director personally trained the track team and advised the captain in coaching the baseball team. Late in the year a student clerk was appointed.

In the year 1901-1902 the Director retained this staff except the clerk. The position of General Manager was created and the place filled by Mr. H. H. Smiley. He soon resigned and Mr. G. H. Moore was appointed to succeed him. The clerical work was carried by the Manager. Miss Blanche Enyart was appointed student assistant in the women's gymnasium. A mechanic was also appointed. In the spring Mr. Snyder, teaching fellow, in the department of History, volunteered his assistance in training the track team and Mr. Hawkins, Instructor in French, was paid a small sum from the athletic funds for coaching the baseball team.

In 1902-1903 Miss Mary I. Mann was appointed to succeed Miss Bender, resigned. Mr. Tuttle was advanced to the rank of Instructor. Other appointments were made as follows: Mr. C. B. Davis, General Manager, Miss Carolyn Stoner, Student Assistant in the women's gymnasium, Mr. Patrick O'Dea, Football Coach, Mr. E. L. Wheeler, Track Coach, Mr. Duncan, of the Mechanic Arts Department, Baseball Coach. At the end of the year the General Manager had to be relieved of the clerical work and Mr. Kaune was appointed temporarily.

The staff during this year 1903-1904 is largely unchanged. Miss Sophia Bodenheimer was appointed to succeed Miss Stoner as student assistant in the women's gymnasium and Mr. H. L. Moore was appointed clerk. Mr. J. F. McLean was appointed to coach all teams. Dr. Westermann has volunteered his services to assist with the baseball team. We are in great need of a

student assistant in the men's gymnasium and an accompanyist in the women's gymnasium .

THE PLANT.

In 1900 the department plant consisted of the men's gymnasium now in use, the women's gymnasium now in use, three tennis courts and Rollins Athletic Field.

WOMEN'S GYMNASIUM.

Of the two gymnasiums, that for the women was the more satisfactory. It was a light sunny room, and being located adjacent to the women's apartments was very convenient. Its value as a gymnasium, however, was lessened by a row of columns down the center of the room. Its chief defect lay in the total lack of baths and lockers in the dressing rooms. These conditions were exceptionally discouraging to the girls, and viciously unhygienic. Not until the fall of 1902 was this matter remedied. Four marble stall needle baths and one hundred lockers with dressing booths were put in. This year six tubs and fifty more lockers have been added to this equipment.

Some of the apparatus in the gymnasium was totally unfit for the use of women and was removed to the men's gymnasium. The parallel bars were cut down to fit the average woman student. The additions in apparatus are: Four dozen wooden wands, eight stall bars and a horizontal ladder.

The women's gymnasium had no office. To fill this deficiency the north end of the hallway of the women's apartments was partitioned off with curtains and furnished.

MEN'S GYMNASIUM.

The men's gymnasium or rather the room used as such could not be less adapted to its purpose. It is in the basement of Academic Hall beneath the Library room, four feet below

the ground level, lighted only by basement windows on one side and end, and cut in two longitudinally by a series of posts, and horizontally by a series of immense hot air pipes on the ceiling. The dressing and locker room is a long narrow hallway lighted and ventilated only by one window at the end of the hall and by three small arch doorways from the floor of the gymnasium. The shower room is an unventilated dungeon with one small opening, the door. The moisture beneath the floor of the gymnasium rots out the floor about once a year. In order to provide ventilation the windows have to be kept open. Even with them open, the body stench often becomes unendurable. If open, the prevailing southwesterly breezes blow the trash about the buildings in through the low windows. It is impossible to keep the room clean; hygienically the place is intolerable. The entrance from the main floor of Academic Hall is by a narrow flight of steep, rough board stairs, to the basement hallway and thence through the dressing room to the floor of the gymnasium. This stairway is the only high opening in the main basement, consequently the body smell accumulating here is often so extreme as to be nauseating.

Previous to the fall of 1902 the basement had a dirt floor and was an endless source of dirt in the gymnasium. Since the concrete floor was put in this condition has been enormously improved, but there is very inadequate janitor service. The athletic teams do all their winter work on this concrete basement floor and on the small cinder track constructed under the auditorium.

Very little new apparatus has been added to the equipment during the last four years. The apparatus on hand was all the floor would accommodate. While some pieces were of very poor quality, we have kept them in good repair and replaced broken parts of poor construction by home made devices and the whole has served very well. The only important additions to equip-

ment have been; three 3x9 mats, three 5x15 mats, and one 16x16 wrestling mat.

Insufficient lockers and room for lockers have been a serious handicap. In 1900 there were 200 lockers. We have added lockers and still fall so far short of the demand that many students are cut out of the work each semester.

ROLLINS ATHLETIC FIELD.

Rollins Athletic Field was in a very bad condition of decay. The quarter-mile track and the two-twenty straight-away were originally very well constructed with an eighteen-inch rock foundation, but they had received no care and were not fit for use. In the Spring of 1901 a new curbing was put in, the track leveled and a new surface of cinders put on. Since that time we have maintained the field and track in good repair and gradually improved them. A seven foot royal wire fence was placed around the field in such a manner as to keep spectators off the field of play and yet leave the field adapted to all uses.

The most serious fault with the field has been the lack of appropriate seating accommodations. This need was relieved somewhat during the fall of this year by the Q. E. B. H. Society which collected funds by subscription to build new bleachers, a duplication of the old. The Senior Engineers patriotically volunteered their services for the work of construction.

The most serious fault with the field now comes through the lack of a water supply which allows the track to pack so hard that it is not fit for use. A new fence will soon be needed around the field. The present fence is in a bad condition of decay and is so low that all the loafers, black and white, in the community collect in wagons and on fences to watch the games. To say the least this lowers the moral tone of athletic contests.

TENNIS COURTS.

The three tennis courts which were made of cinders served their purpose very well. They stand the wear and tear of perpetual usage but are very hard on balls and shoes. One court was destroyed by the erection of the Engineering Laboratory. Two new courts were constructed in the summer of 1902 south of the old courts. To give an equitable distribution of the use of these four courts we are compelled to limit their use to one hour on each of three days a week, scheduling names, hours and courts. During the fall of this year we borrowed the old tennis court back of the Y. M. C. A. building for the use of the girls.

During the fall of 1901 the Executive Board gave permission to lay out Golf Links on the Agricultural Farm south of Rollins Field. These links were laid out with the assistance of an expert and have proven well planned. They have been gradually improved until they will shortly approximate a state of perfection. We have made no effort to stimulate interest in golf for fear the links would be over crowded before they were ready to stand the usage. However every day sees large numbers of students and faculty enjoying work on the beautiful greens. They have also become the favorite strolling grounds for the whole community.

PRACTICE FIELDS.

Early during the fall of this year, the first practice fields for baseball, football, hockey, etc., were laid out south of Rollins Field. They are the first installment to our new plant. These fields together measure 250 feet by 500 feet and will be named Practice Fields No. 1 and 2.

THE NEW PLANT.

The Forty-second General Assembly appropriated sixty-

nine thousand dollars from the Collateral Inheritance Tax for a new men's gymnasium which we hope to build this fall. The site for this building as well as the future site for the women's gymnasium suggested by the Director were approved by the Board of Curators. The site for the men's gymnasium was located on the Agricultural Farm south of Hudson avenue and the head of Hitt street. The future site for the women's gymnasium was located on the Horticultural Grounds south of Read Hall and directly across the street from the site of the men's gymnasium. These sites were selected because they will give room for future expansion. Following our general policy concerning fields we have made plans of out-door gymnasiums adjacent each gymnasium building and a comprehensive series of practice fields, courts, etc., to which the department may grow for many years. This plant as it will be when it is completed has been plotted ready for construction. We were anxious to have this done in order that money spent on improvements would go into this broad permanent plant.

Respectfully submitted,

CLARK W. HETHERINGTON,

Director.

XII. UNIVERSITY LIBRARY.

To the President of the University of Missouri:

Sir:—I have the honor of submitting herewith the report of the University Library for the year beginning May 1, 1903, and ending April 30, 1904.

READING ROOM.

The following table gives, with some degree of accuracy, the history of the work of the Reading Room during the past year.

	Books circulated	Books used	Average attendance in Reading Room
May	726	2,577	26
June	446	1,425	16
July	402	1,100	14
August	519	774	11
September	419	2,655	26
October	886	5,328	35
November	1,142	4,166	32
December	1,124	3,404	25
January	1,168	3,282	26
February	1,330	4,008	30
March	1,577	4,627	30
April	1,271	3,907	29

A comparative statement of the above items for the last three years is as follows:

1901-02	5,564	42,800	21
1902-03	10,381	34,990	26
1903-4	11,010	37,253	25

The total number of books used, 37,253, does not, however, indicate the actual amount of reading in the library as it does not include any of the books used in the stack room itself, or any of the books used in the various branch and departmental libraries.

The average attendance, given as twenty-five, is estimated on the basis of an hourly count throughout the day, during vacations as well as during the University sessions. In the morning hours of the winter months, the average attendance runs to about 65 and frequently reaches nearly 100, or greater than the number of available chairs. The number of students registered as borrowers is 603. The total registration during the current session is 1,145. Subtracting from this number the students registered in the courses in Law and Medicine, very few of whom use the main library at all, it appears that about 70 per cent of the students now on the grounds are actually borrowing books from the library. Judged by the experience of other places this is a fairly satisfactory percentage, but it is, of course, far from being as high a one as should exist.

Through the courtesy of various libraries we have been enabled to supplement our collections by the loan of a large number of books needed by members of the University in carrying on their work. I desire particularly to thank the Librarians of Chicago University, Cornell University, Columbia University, Harvard University, the Public Library of St. Louis, the Public Library of Boston and the Library of the Surgeon-General's Office in Washington for their generosity in this matter. The usual amount of time for which these books have been borrowed is two weeks, but in some cases, notably in the case of a number of books in English local history borrowed from the Boston Public Library, and some botanical works borrowed from Cornell University, the books have remained in our possession for several months. I am glad to report that we have been able to extend the same courtesy to two of the libraries of this state.

THE SHELVES.

In the early part of last summer, a complete inventory was taken of the library, the first we have been able to make since the beginning of my connection with it. A large number of books were found to be missing, but since the list was compiled a very considerable number have been found. The present number of books on the missing list is 133. At least one-third of the books will probably be found within a short time; the other two-thirds doubtless represent the actual losses during the last four years. This number is larger than it should be, but with the inadequate reading room force at our disposal, it is impossible to keep any closer check on the books without seriously hampering their use.

As an additional protection against the loss of books, we have had the name of the library perforated on the title page of about half of our main collection, and this work will doubtless be completed during the coming year. This perforation is absolutely indelible and will enable us to identify lost books with a certainty that was impossible before. The crowded condition of our shelves, which renders misplacement of books very much more frequent than it should be, will be referred to in another place.

THE CATALOG.

I regret to report that the catalog is not yet entirely finished. During the year, aside from keeping up current accessions, we have finished cataloging the agricultural collections and have made a beginning on the catalog of the law library, which is to be done in duplicate. A large amount of the time of the cataloging force has been taken up with the re-classification of our collection of mathematics. The Dewey classification, which we formerly used, was pronounced by Prof. Hedrick to be entirely unworkable and out of date. Prof. Hedrick was,

therefore, good enough to prepare, on the basis of the classification of books in the International catalogue, in the Encyclopädie der mathematischen wissenschaften, and other standard works, a classification, which, when adapted to our nomenclature, was adopted by the library. The work of re-classification necessitated the withdrawal from the catalog of all the cards for mathematical books, the erasing and re-writing of the call number, both on the books and on the card, and the replacing of the cards in the catalog. The work has been one of great labor, and one which should only be undertaken in any case, after very careful investigation of the value of the proposed change.

During the year 12,784 new cards have been written for the catalog. These cards represent 10,466 volumes, or 3,286 titles. A beginning has been made in the classifying and cataloging of our collection of pamphlets. Thus far we have written cards for 1,014 pamphlets, largely University dissertations. The pamphlets have been classified roughly into thirty-five classes and given a consecutive number. An author card, complete in everything except the call number, has been written for each pamphlet and placed in the main catalog. In addition to this a short title list has been prepared as a shelf list. The titles in this list are arranged under the class in the order in which the pamphlets are cataloged. As time goes on and more money becomes available for binding, we shall doubtless bind volumes on certain specific subjects. The author card, already written, will then be given the call number of the bound volume and the volume made ready for use without any further cataloging.

Beginning with January 1, of the current year, the Superintendent of Documents of the U. S. Document Office, has issued printed catalog cards for all documents, other than serials, supplied by him to the depository libraries. These cards will have great value, in that they will render available a very large amount of material hitherto difficult of access. Supplementing

this work, we have undertaken to catalog out of the Congressional set a number of the more important government serials. So far 162 of these sets have been cataloged.

The library has, as this report is written, completed its arrangements for the purchase of the printed cards issued by the Library of Congress. A report will be made next year on the success of this experiment.

ORDERS AND ACCESSIONS.

The total accessions of the year have been 9,757 volumes. Of these 3,680 have been given to the library and 6,077 purchased at a cost of $14,869.20. The increase in the library during the past twelve years will be seen from the following table, giving the number of volumes in the library on the first of May each year.

1893	12,100
1894	14,600
1895	15,614
1896	19,800
1897	23,320
1898	23,960
1899	24,890
1900	33,540
1901	37,322
1902	44,565
1903	50,000
1904	59,757

The University has reason to be proud of the growth of the library in this comparatively short space of time. While the library is today far from being an adequate collection of books for a University such as this is, the number of volumes represent a working strength very much greater than that number of volumes would indicate in the ordinary library. We have, I am glad to say, almost no "dead books." In very few cases have the editions of the works, which we have on our shelves, been superseded by those of later date. We have very

little literature of any sort that can not be used in one way or another for purposes of instruction. This is to my mind not an unmixed advantage. There should be more works in the library of general interest and culture value. This lack has been felt by the President and recognized by the Board in their appropriation of $300.00 for the purchase of books on fiction, biography and travel. As years go on the appropriation for this and similar purposes ought to be continued and increased.

The collection of books so generously given to us by Senator Vest, which was referred to in my last report, was donated with the understanding that the books were to be kept together and not distributed throughout the main collection of the library After a careful consideration of the contents of the collection, the Librarian made representations to Senator Vest which induced him to remove this restriction. A large number of books in the library, which were duplicated by volumes in the Vest collection, were retired from the shelves and their places taken by copies in the Vest collection. These books are now in constant use and have made an exceedingly valuable addition to the library.

A large amount of time has been spent during the past year in completing and keeping up to date the various reports of State officials, of Societies and of Commercial bodies. Not less than five hundred personal letters have been written by the Librarian during the past year in carrying out this purpose. We have entirely discontinued sending requests for these documents on any printed form, it being believed that the time taken in writing a personal letter is very much more than compensated for by the attention which the letter receives in the office to which it is addressed.

Our foreign purchases are still made very largely through an American importer. The Librarian has made a careful study, during the past year, of the comparative cost of purchasing

direct or through an importer, and the conclusion reached, as the result of these studies, is that in the long run the University saves from five to eight per cent by purchasing in this country. We are still making occasional purchases direct from dealers abroad and shall doubtless continue to do so where special reasons seem to call for it.

The action of the American Publishers Association in reducing the discount allowed to libraries from 35 per cent to 10 per cent, has been followed by similar action on the part of the publishers of Great Britain. Our English books will, therefore, cost about 4 per cent more than formerly. Notwithstanding this fact, it is frequently possible for us to import the English edition of books, published both in this country and England, at a saving of from 5 to 10 per cent on the purchase price. A new regulation of the Treasury Department has complicated to some extent, the importation of English books. According to this rule, the importer has to file at the Custom House, within ninety days of the date of entry, receipts signed by some official of the institution for all books imported free of duty. It is difficult to see the practical value of such a regulation, considering the fact we have already filed in the Custom House a sworn statement to the effect that the books are ordered for the library and are to be used as its permanent property.

Among the notable sets acquired by the library during the past year are the following:

History:

Annual register up to 1807; Camden's Britannia; Camden society publications; Chronicles and memorials of Great Britain and Ireland; Dugdale's Monasticon anglicanum; Historical records of New South Wales; House of Commons Journals, 1547-1782; Lavisse et Rambaud's Histoire generale; Lewis' Topographical dictionary of England and Wales; Report of the Royal

Historical manuscripts com; Rushworth's Historical collections; Wait's State papers; Wood's Athenae Oxoniensis.

Philosophy:

Année philosophique; Archiv für die geschichte der philosophie; Archiv für systematische philosophie; Giordano Bruno's work in Latin and Italian; Renouvier's Critique philosophique.

Philology and Literature.

Burton's Arabian Nights; Child's Ballads; Rheinisches museum für philologie; Romanische forschungen; Zeitschrift für deutsche philologie; Zeitschrift für französische sprache; Zeitschrift für romanische philologie.

Political Science:

Annuaire de législation francaise et étrangère; Archiv für öffentliches recht; Conrad's Handwörterbuch der staatswissenschaften; Finanz-Archiv; Journal of the London Statistical Society.

Pure Science:

Annals of botany; Mathematische annalen; Mémoires de l'Observatoire de Paris; Philosophical magazine, 5th series; Wiedermann's Annalen der physik und chemie.

Law.

American and English corporation cases; American state reports; Campbell's English ruling cases; Central criminal court trials; Criminal law magazine; Cox's cases in criminal law; Green bag; Illinois Appellate reports; Law magazine; Law quarterly review; Law times; Myer's Federal decisions; Rose's notes on United States reports.

Medicine.

Allbutt's System of medicine; Archiv fur gynakologie; Buck's Reference handbook of the medical sciences; Index med-

ficus; Journal of comparative pathology; Virchow's Archiv für pathologische anatomie.

SERIAL PUBLICATIONS.

The total number of periodicals now received by this library is 471. Of these 166 are received by gift (see appendix A.) and 305 are purchased at an annual cost of about $1,455.40. The Periodical Room, opened about a year and a half ago, has enabled the students to use these publications with a degree of comfort impossible before, and the general reading and reference work done with them has shown a gratifying increase. This has been stimulated to a considerable degree by the bibliographical work done by Mr. Francis Daniels, the assistant in charge of that room. From time to time lists of magazine references bearing upon important questions of the day have been posted in the Periodical Room and have been very much used.

Early last fall the various sets of bound periodicals were removed from their places in the general classification and transferred to the corridor immediately outside of the Periodical Room where they were placed on temporary shelving. The change has justified itself in every way. The crowded condition of the main stack made it impossible to use these sets as freely as they should have been, and it is eminently desirable to keep these sets as close as possible to the unbound volumes and the current numbers.

A strong effort has been made during the last year to secure as large a body as possible of the publications of organized labor throughout the country. Personal letters were written to all of the unions connected with the American Federation of Labor. As a result of this effort we are now receiving 46 periodicals published by labor unions, and we have been able to complete several very important files. I desire especially to record my thanks to the editors of the Coast Seamen's Journal

and the Railway Conductor for their kindness in endeavoring to supply complete sets of their publications.

DEPARTMENTAL AND BRANCH LIBRARIES.

The only important change that has been made in these libraries is the establishment of a branch library of medicine. All the works on medical subjects have been brought together in a room at the Medical Building and placed in charge of the stenographer employed by the Dean of the Medical School. This room is open at regular hours and seems to have supplied the needs of the medical students in a satisfactory manner. The libraries of Horticulture, Entomology and Botany have previously been brought together in a similar way in the Horticultural Building. I am of the opinion that it would be to the distinct advantage of the University if some, at least, of the departmental libraries now existing were incorporated into the main collection. This can not be done, however, until our shelf space is largely augmented. The Dean of the Agricultural College has signified his intention to return the collection of books now in the Agricultural Building to the University library, as soon as we have an adequate amount of shelving space.

BINDING.

During the year 1,074 volumes have been bound at a cost of $957.87. The appropriation for binding is entirely inadequate to keep pace with the needs of the library. We have been obliged recently, in order to prevent mutilation and loss, to remove from circulation and box up a large number of unbound periodicals. Until these volumes are bound they can be of no service to anyone. In other words, the books represent an investment without any return to the University. I shall doubtless be able to bind most of these books before the end of the calendar year, but there will be an equal, if not a larger, number of unbound books on hand at the beginning of the next bien-

nial period. The appropriation for binding should certainly be larger for the next two years.

TEXT BOOK LIBRARY.

I am glad to report that the Text Book Library, spoken of in my last report, has proved of very great service, particularly to the departments of Pedagogy, History and English. There are at present 194 volumes in the collection. Until the collection had proved its value, I have hesitated to ask for renewed gifts to it, but I shall endeavor to increase the number of volumes in this library during the coming year.

NEW BUILDING.

The efficiency of the library is tested not so much by the number of volumes on its shelves as by the use that is made of the books which it possesses. Nothing is more discouraging to the student than to go into a crowded and ill-ventilated room and find that the books which he desires are so placed that he cannot readily get at them. I regret to say that this is a condition prevailing in this library. Shelves that are crowded or too high up to be readily reached, encourage the displacement of books by the readers. We are compelled constantly to remove the less used books from their places in the classification and to store them in less available space. The administration rooms are crowded, ill lighted and uncomfortable. These are only a few of the disadvantages that accompany the use of our present quarters. The situation is rapidly approaching a crisis, and it is necessary to institute some radical reform without delay. I sincerely hope that the Board will be able to secure, from the next General Assembly, appropriations sufficiently large to warrant the beginning of the construction of a library building adequate to the needs of the University. It will, however, under the most favorable circumstances, be impossible to occupy this building for five or six years at the earliest. The time will probably be

a longer one. In the interim, it will be necessary to make some provision for the current growth of the library. When the new gymnasium building is constructed it will be possible to use the present gymnasium floor as a stack room, and all the space now occupied by the reading room and stack room as a reading room. The only changes necessary to render the present gymnasium available for this purpose would be the laying of a granitoid floor and the building of temporary wooden stacks. This change would doubtless supply the greatest need of the library for several years.

In closing, I desire to express my personal thanks to the many friends of the University who have so generously donated books to this library. A list of their gifts is appended. (Appendix B.).

Respectfully submitted,

J. T. GEROULD,

Librarian.

(Appendix A.)

PERIODICALS RECEIVED BY GIFT OR EXCHANGE.

Advance Advocate.
Advocate of Peace.
American Economist.
American Federationist.
American Industries.
Anales de la Universidad de Buenos Aires.
Anales de la Universidad de Chili.
Annales de l 'Université de Grenoble.
Annales de l 'Université de Lyon.
Annales du Midi.
Arbeiter Zeitung.
Atti della R. Academia dei Lincei.
Atti della R. Istituto Veneto.
Automobile magazine.
Baker's journal.
Birds and Nature.
Blacksmith's journal.
Boletin de la Academia Nacional de Ciencias en Cordoba.
Brauer-zeitung.
Bricklayer and Mason.
Brick, tile and terra cotta worker's journal.
Broom maker.
Buddhism.
Bulletin de l 'Academie Impèriale des sciences de St. Petersbourg.
Bulletin de la classe des lettres: Academie de Belgique.
Bulletin de la Société des Naturalistes de Moscou.
Bulletin of the American Museum of natural history.
Bulletin of the Buffalo Society of natural sciences.

Bulletin of the California Academy of sciences.

Bulletin of the Chicago Academy of sciences.

Bulletin of the department of Geology of the University of California.

Bulletin of the Department of Labor.

Bulletin of the Illinois State Laboratory of natural history.

Bulletin of the Laboratories of Natural History of the State University of Iowa.

Bulletin of the Lick Observatory.

Bulletin of Montana University: biological series.

Bulletin of Montana University: geological series.

Bulletin of the National Metal Trades Association.

Bulletin of the Philosophical society of Washington.

Bulletin of the Phoenix Free Museum.

Bulletin of the Scientific Laboratories of Denison University.

Bulletin of the University of Texas: Mineral survey.

Bulletin of the University of the State of New York.

Bulletin of the University of Wisconsin.

Bulletin of the Wyoming University, petroleum series.

Carpenter.

Carriage and wagon workers' journal.

Christian Register.

Cigar makers' official journal.

Coast seamen's journal.

Cold Spring Harbor monographs.

Colorado College studies.

Colorado University studies.

Columbia University quarterly.

Consular Reports.

Contributions from the Botanical Laboratory of Pennsylvania University.

Contributions from the United States National Herbarium.

Contributions from the Zoological Laboratory of Pennsylvania University.

Contributions to Biology from the Hopkins Seaside Laboratory.

Contributions to Knowledge of the Smithsonian Institution.

Coopers' International journal.

Criterion.

Deutsch-Amerikanische Buchdruckerzeitung.

Educational Outlook.

Educational Science.

Electrical worker.

German American annals.

Granite Cutters' journal.

Hartford Seminary Record.

Harvard Graduates' magazine.

Hermathena.

Illinois University studies.

International book-binder.

International horseshoers' monthly magazine.

International metal worker.

International musician.

International wood-worker.

Iowa journal of History and Politics.

Iowa University studies.

James Sprunt Historical monographs.

Journal of Mycology.

Journal of the Americal Medical Association.

Journal of the Brotherhood of Boilermakers and Iron Ship Builders.

Journal of the Cincinnati Society of Natural History.

Journal of the Elisha Mitchell Scientific Society.

Journal of the Society of Dyers and Colourists.

Journal of the Switchmen's union.

Labour Gazette of Canada.

Lather.

Law notes.

Leather Workers' journal.

Leland Stanford, Jr., University studies.

Locomotive Firemen's magazine.

McGill University papers.

Machinists' monthly journal.

Maine University studies.

Memoirs and Proceedings of the Manchester Literary and Philosophical Society.

Memoirs of the National Academy of Science.

Memoirs of the Washington Society of Philosophical Inquiry.

Memoirs of the Peabody Museum of Yale University.

Minnesota Botanical studies.

Mixer and Server.

Miscellaneous collections of the Smithsonian Institution.

Missouri School journal.

Monthly Bulletin of the Bureau of American Republics.

Monthly Summary of Commerce and Finance.

Monthly Weather Review.

Motorman and Conductor.

Musée Social, Annales et memoirs.

Navy League journal.

Official Gazette of the U. S. Patent Office.

Official journal of the Amalgamated Meat Cutters and Butcher workmen.

Official journal of the Brotherhood of Painters, Decorators and Paperhangers.

Official organ of the United Association of Journeymen Plumbers.

Primary education.

Princeton contributions to Psychology.

Proceedings and Transactions of the Royal Society of Canada.

Proceedings of the Academy of Natural Sciences of Philadelphia.

Proceedings of the American Academy of Arts and Sciences.

Proceedings of the American Philosophical society.

Proceedings of the Boston Society of Natural history.

Proceedings of the California Academy of Sciences.

Proceedings of the Indiana Academy of Science.

Proceedings of the Philosophical Society of Glasgow.

Proceedings of the Royal Society of Victoria.

Protectionist.

Public.

Publications of the Field Columbian Museum.

Publications of the University of Pennsylvania.

Queen's quarterly.

Railroad Telegrapher.

Railroad Trainmen's journal.

Railway Carmen's journal.

Railway conductor.

Railway journal.

Retail clerks' international advocate.

St. Louis Medical Review.

Science Bulletin of Kansas University.

Scientific Bulletin of the Philadelphia Museums.

Shoe Worker's journal.

Special Consular reports.

Star of Hope.

Stonecutters' journal.

Stove mounters' journal.

Success.

Summary.

Tailor.

Technology Review.

Transactions of the Academy of Science of St. Louis.

Transactions of the Kansas Academy of Science.

Transactions of the Royal Geographical Society of Australasia.

Transactions of the Wisconsin Academy of Science.

Travaux scientifiques de l'Université de Rennes.

Typographical journal.

United Mine Workers' journal.

University Chronicle.

University of California studies.

University of Illinois studies.

University of Nebraska studies.

University of Toronto studies.

University of Virginia studies.

Vanderbilt University quarterly.

Verhandlungen der Naturforschenden gesellschaft in Basel.

Verhandlungen der Schweizerischen naturforschenden gesellschaft.

Wilson Bulletin.

Woman's Home Companion.

Yale Alumni Weekly.

(Appendix B.)

GIFT LIST.

	BOOKS	PAMPHLETS
Académie Royale de Belgique	1	
Alabama, Geological Department	15	
Alabama, Mine Inspector		4
Alabama, Secretary of State		2
Amalgamated wood-workers		4
American Book Company	1	
American Free Trade League		74
American Medical Association	1	
Amherst College Library		1
Appleton and Company	2	
Arizona, Secretary of State		12
Arizona, Superintendent of Public Instruction		3
Arizona, Treasurer		1
Arkansas, Auditor		1
Arkansas, Mine Inspector	1	
Arkansas, State Department	1	1
Association of Collegiate Alumnae		1
Bakers' Journal	1	
Baldwin, James		48
Baltimore, Enoch Pratt Free Library		11
Barnberg (Germany) Rameis Sternwarte	1	
Belgium, Secrétaire de l'Etat Independent du Congo		9
Belgium, Secrétaire General des Chemins de Fer		2
Berlin (Germany) Akadamie der Wissenschaften	1	
Boot and Shoe Workers' Journal	1	
Boston Chamber of Commerce	14	
Boston, Home Market Club		36
Boston, Public Library		6
Bowdoin College		5
Braddock (Pa.) Carnegie Free Library		1
Breslau (Germany) Universitäts-Sternwarte	1	
Bricklayer and Mason	1	
Brill, J. G. Company	1	
Brockhaus	1	
Brooklyn Institute of Arts and Sciences		2
Brooklyn, Public Library	1	3

	BOOKS	PAMPHLETS
Brotherhood of boiler makers and shipbuilders		21
Brotherhood of Painters, etc.	1	
Brown University		80
Buchdrucker-Zeitung	1	
Buffalo, Public Library		1
Buffalo Society of Natural Science		3
Cairo (Egypt) Abbassia Observatory		3
California, Comptroller		1
California, Secretary of State		1
California, Superintendent of Public Instruction	8	
California, Treasurer		3
California, University of		10
Calvert, W. J.	4	
Canada, Education Department		1
Canada, Geological Survey Department	3	7
Canada, Labour Gazette	1	
Canada, Superintendent of Immigration	1	
Cape Town (Cape Colony) Royal Observatory.		2
Carriage and Wagon Workers' Journal	1	
Carnegie Institution (Wash.)		1
Catholic University of America	1	1
Chicago Academy of Sciences		20
Chicago Historical Society		1
Chicago, John Crerar Library		3
Chicago, Newberry Library		6
Chicago Seminary Quarterly	1	
Chicago University Press		1
Chickering and Sons	1	
Christiania (Norway) Universitets Observatorium	1	
Cigar Makers' International Union	1	
Cincinnati, Public Library		8
Cincinnati, University of		4
Clark University Library		2
Clay, G.		2
Cleveland, Public Library		1
Citizens Alliance		1
Coast Seaman's Journal	3	
Colorado, Engineering Department	1	
Colorado, Insurance Department	7	1
Colorado, Board of Charities and Corrections.	4	2
Colorado, Board of Health	1	
Colorado, State Library	1	2
Colorado, Treasurer	1	1

	BOOKS	PAMPHLETS
Colorado, University of	2	3
Columbia Herald	2	
Columbia University (N. Y.)	29	4
Connecticut, Academy of Arts and Sciences	2	
Connecticut, Board of Education	2	
Connecticut, Board of Health	2	
Connecticut, Bureau of Labor Statistics	1	
Connecticut, Commissioner of Insurance	36	
Connecticut, Charities Board		10
Connecticut, Historical Society		1
Connecticut, Secretary of State		2
Coopers' International Journal	1	
Cope, Mrs. E. D.		118
Cordoba (Argentine) L'Academie Nationale des Sciences		1
Cornell University		1
Costa Rica, Republic of		7
Daniels, Francis	1	2
Dartmouth College	1	
Delaware, Auditor	5	
Delaware, Insurance Department		4
Delaware, Secretary of State		1
Delaware, Treasurer	1	
Denison University		3
Douai (France) Bibliotheque Publique		2
Egypt, Administration generale de Chemins de fer		3
Egypt, Public Works Department	10	
Ellwood, C. A.		11
Erlangen, Universitäts-Bibliothek		6
Field Columbian Museum		5
Florida, Comptroller	1	
Florida, Secretary of State		1
Florida, Superintendent of Public Instruction	3	1
France, Ministère des travaux Publics		1
Francis, David R.	1	
Georgetown College Observatory	1	
Georgia, Education Department	2	1
Georgia, Geological Department	5	
Georgia, Secretary of State		1
Georgia, Railway Commission		2
Georgia, Treasurer		2
Gerould, J. T.	5	
Glasgow, Royal Philosophical Society		1
Glasgow, University of	1	

	BOOKS	PAMPHLETS
Goodridge, C. F.		3
Graff, L. von		2
Greene, M. E.		1
Grenoble (France) Université	1	2
Guatamala, Ministeria de Fomento		1
Hackett, A. E.		1
Harper and Brothers	1	
Harvard University		7
Harvard University Observatory	3	75
Haverhill (Mass.) Public Library		2
Hawaii Promotion Committee		1
Heidelberg (Germany) Astrophysikalischen Obser.	2	
Hendaye (France) Observatoire		1
Hongkong (China) Observatory		1
Huberich, C. H.		1
Hudson-Kimberly Pub. Co.	3	
Idaho, Equalization Board		3
Idaho, Secretary of State		1
Idaho, Superintendent of Public Instruction.		1
Idaho, Treasurer		1
Illinois, Auditor	1	
Illinois, Board of Agriculture	1	
Illinois, Bureau of Labor Statistics	2	
Illinois, Farmer's Institute	1	
Illinois, Insurance Department		4
Illinois, Railroad and Warehouse Commission.	1	
Illinois, Secretary of State		1
Illinois, Society of Engineers and Surveyors.	1	
Illinois, State Historical Society	1	
Illinois, State Laboratory of Natural History.	1	1
Illinois, State Library	1	
Illinois, Superintendent of Public Instruction.	1	
Illinois, Treasury Department	1	
Illinois, University of		1
Indiana, Academy of Science		2
Indiana, Auditor	7	
Indiana, Board of Charities		6
Indiana, Secretary of State		1
Indiana, State Geologist	8	
Indiana, Superintendent of Public Instruction.	2	
International Typographical Union	2	
International Association of Machinists	1	
International Brotherhood of Blacksmiths		4
International Metal Worker	1	

	BOOKS	PAMPHLETS
International Union of the United Brewery Workmen of America		3
Iowa, Academy of Sciences	2	
Iowa, Board of Control	2	21
Iowa, Board of Railroad Commissioners	1	
Iowa, Geological Survey	1	
Iowa, Historical Society	7	
Iowa, Mine Inspectors	2	1
Iowa, Secretary of State	8	2
Iowa, Treasurer	1	
Iowa, Superintendent of Public Instruction	1	1
Iowa, University of		1
Italy, American Embassy	21	
Journeymen Tailor's Union		13
Judson, F. N.		1
Kansas, Academy of Science	1	
Kansas, Board of Agriculture		1
Kansas, Board of Health	6	2
Kansas, Board of State Charities	2	
Kansas, Bureau of Labor	3	1
Kansas, Insurance Department	2	
Kansas, Secretary of State		1
Kansas, State Historical Society	1	
Kansas, University of		2
Kansas City (Mo.) Comptroller		2
Kansas City (Mo.) Public Library	1	9
Kentucky, Inspector of Mines	1	
Kentucky, Superintendent of Public Instruction	1	
Kentucky, Secretary of Commonwealth		1
Lake Mohonk Arbitration Conference		2
Lawson, J. D.	12	
Laws, Samuel S.		2
Leiden University		6
Leland Stanford Jr. University Library	2	12
Library Bureau	1	
Lick Observatory	1	18
Lille (France) Université		4
Locomotive Fireman's Magazine	1	
London, Asylums Committee Office	2	
London, Wellcome Laboratories	1	
Longmans, Green and Co	15	
Loubat, Duc de	1	1
Louisiana, Auditor	1	

	BOOKS	PAMPHLETS
Louisiana, Superintendent of Public Instruction	2	4
Louisiana, Treasurer	1	
Louisiana, Railroad Commissioner		1
Lowell Observatory		8
Lyon, Bibliotheque Universitaire	4	2
Macmillan Company	1	
McAlester, A. W., Jr	1	
Maine, Secretary of State	1	
Maine, Superintendent of Public Schools	1	23
Manchester (England) Literary and Philosophical Society		1
Manly, W. G.		3
Marburg (Germany) Universitäts Bibliothek.		104
Maryland, Bureau of Statistics	1	
Maryland, Comptroller	2	
Maryland, Insurance Commissioner	1	
Maryland, Secretary of State		1
Massachusetts, Auditor	2	
Massachusetts, Board of Conciliation and Arbitration	1	
Massachusetts, Board of Charity	1	
Massachusetts, Board of Railroad Commissioners	1	
Massachusetts, Bureau of Statistics of Labor.	1	3
Massachusetts, Civil Service Commissioners..		3
Massachusetts, District Police	16	2
Massachusetts, Hospital for Epileptics		1
Massachusetts, Institute of Technology		2
Massachusetts, Insurance Department	25	
Massachusetts, Secretary of Commonwealth..		1
Massachusetts, Treasurer and Receiver General	4	10
Meat Cutters and Butcher Workmen's Journal.		24
Mexico, Instituto Geologico Nacional		1
Michigan, Board of Agriculture	1	
Michigan, Board of Corrections and Charities.	1	1
Michigan, Board of Health		1
Michigan, Bureau of Labor	1	
Michigan, Forestry Commission	1	1
Michigan, Treasurer	1	
Milan (Italy) Reale Observatorio di Brera...		1
Milwaukee, Public Library		1
Minnesota, Auditor	1	
Minnesota, Dairymen's Association	1	
Minnesota, Insurance Commissioner	2	

	BOOKS	PAMPHLETS
Minnesota, Labor Bureau		1
Minnesota, Public Examiner		1
Minnesota, Railroad and Warehouse Commissioner	1	
Minnesota, Secretary of State	50	6
Minnesota, Superintendent of Public Instruction	1	
Minnesota, University of	1	
Mississippi, Auditor	1	
Mississippi, Public Education		1
Missouri, Botanical Garden	1	
Missouri, Bureau of Labor Statistics	2	
Missouri, Historical Society	8	1
Missouri, Insurance Department	4	
Missouri, Mine Inspector	3	
Missouri, Railroad and Warehouse Commission	6	
Missouri, Secretary of State	42	
Mixer and Server		28
Montana, Auditor	1	
Montana, Bureau of Labor and Industry	1	
Montana, Secretary of State		1
Montana, State Library	5	15
Montana, Superintendent of Public Instruction		1
Montana, University of		2
Montreal, Charity Organization Society		1
Naples (Italy) Observatorio di Capo di Monti.	1	
National Arbitration Committee		1
National Association of Manufacturers	1	11
National Business League		2
National Metal Trades Association	1	1
National Municipal League		3
Nebraska, Commissioners Lands and Buildings	1	1
Nebraska, Geological Survey	1	
Nebraska, Insurance Department		3
Nebraska, Superintendent of Public Instruction		6
Nebraska, University of		3
Nevada, Comptroller		15
Nevada, Secretary of State		1
Nevada, Superintendent of Public Instruction		1
New England Historic-Genealogical Society	1	
New Hampshire, Secretary of State	1	

	BOOKS	PAMPHLETS
New Hampshire, Superintendent of Public Instruction	1	
New Hampshire, Treasurer	2	
New Jersey, Commissioner Banking and Insurance	2	2
New Jersey, Board of Assessors	4	2
New Jersey, Bureau of Statistics	1	
New Jersey, Comptroller	2	
New Jersey, Factory and Workshop Inspector		11
New Jersey, Geological Survey	1	
New Jersey, State Library	1	6
New Jersey, Superintendent of Public Instruction	5	1
New Jersey, Treasurer	2	
New Mexico, Auditor Public Accounts		1
New Mexico, Commissioner Public Lands		1
New Mexico, Superintendent of Public Instruction		2
New South Wales, Department of Public Instruction	1	14
New South Wales, Exchange Board	63	15
New York, Board of Charities	4	1
New York, Civil Service Commission	6	1
New York, Commission in Lunacy	1	
New York, Comptroller	2	
New York, Department of Agriculture	3	
New York, Department of Health	2	
New York, Department of Labor	3	5
New York, Department of Public Works	1	1
New York, Department of State	1	
New York, Engineering and Surveying Department	8	
New York, Railroad Commissioners	14	
New York, State Library	12	25
New York, Superintendent of Insurance	20	
New York, Superintendent of Public Instruction	10	
New York Prison Commissioner	3	
New York, Treasury Department	7	
New York (City) Century Association	2	
New York (City) Charity Organization Society		2
New York (City) Department of Education	1	1
New York (City) Department of Finance		1

	BOOKS	PAMPHLETS
New York (City) Mercantile Library		1
New York (City) Merchants' Association	1	5
New York (City) Produce Exchange	2	
New York (City) Public Library		22
New York (City) University Club	1	
New Zealand, Premier	5	3
North Carolina, Auditor	2	
North Carolina, Board of Health	1	
North Carolina, Insurance Commissioner	3	
North Carolina, Railroad Commissioner	8	
North Carolina, Secretary of State		1
North Carolina, Treasurer	2	
North Carolina, Superintendent of Public Instruction	2	
North Dakota, Auditor	1	
North Dakota, Insurance Commissioner	3	
North Dakota, Secretary of State	1	
North Dakota, Superintendent of Public Instruction	1	
North Dakota, Railroad Commissioner	1	1
Noyes, I. P.		2
Oberlin College		1
Ohio, Auditor	12	
Ohio, Board of State Charities		6
Ohio, Bureau of Labor Statistics	2	
Ohio, Inspector of Mines		11
Ohio, Insurance Department	2	2
Ohio, Railroad Commissioner	11	
Ohio, Secretary of State	8	1
Oklahoma, Superintendent of Public Instruction	1	3
Ontario, Department of Agriculture	1	
Oregon, Secretary of State	1	
Padua (Italy) University		1
Paris (France) Observatoire	1	
Patent Office Library (London)		11
Pennsylvania, Agricultural Department	2	6
Pennsylvania, Auditor-General	1	1
Pennsylvania, Board of Health	1	
Pennsylvania, Bureau of Mines	10	
Pennsylvania, Eastern Penitentiary		1
Pennsylvania, Factory Inspector	5	
Pennsylvania, Insurance Department	4	
Pennsylvania, Secretary of Commonwealth		1
Pennsylvania, Secretary of Internal Affairs	1	

	BOOKS	PAMPHLETS
Pennsylvania, Superintendent of Public Instruction	6	1
Pennsylvania, Treasurer	2	
Pennsylvania, University of		20
Philadelphia Commercial Museum		15
Philadelphia, Drexel Institute of Art, Science and Industry		1
Philadelphia, University Club	1	
Philippine Islands, Mining Bureau		2
Philippine Islands, Civil Service Board		2
Philippine Islands, Forestry Bureau		2
Pittsburg, Carnegie Library		20
Plumbers' Journal		2
Prag (Austria) Universitäts Sternwarte	1	
Princeton University	1	2
Providence, Public Library		37
Public Policy Publishing Company		25
Pulkova (Russia) Observatoire Nicolas	6	
Quarles, Charles		1
Railroad Telegrapher	1	
Railroad Trackmen's Advocate	1	10
Railroad Trainmen's Journal	1	
Railway Conductor	20	
Rennes (France) Université	1	
Retail Clerks' National Advocate		21
Rhode Island, Board of Health	2	
Rhode Island, Commissioner of Industrial Statistics	6	9
Rhode Island, General Treasurer	14	
Rhode Island, Insurance Commissioner		11
Rhode Island, Public School Commissioner	11	
Rhode Island, Railroad Commissioner	1	1
Rhode Island, Secretary of State		1
Rochester Academy of Science	4	
Rollins, Mrs. C. B	32	143
Royal Astronomical Society	50	
Rutledge Book Firm	1	
St. Andrews, University Library	1	
St. Joseph (Mo.) Free Public Library		7
St. Joseph (Mo.) State Hospital for Insane		1
St. Louis (Mo.) Mercantile Library		43
St. Louis (Mo.) Public Library		18
St. Petersburg, Académie Imperiale des Sciences	5	

	BOOKS	PAMPHLETS
St. Petersburg, Société Imperiale des Naturalistes	6	
Scribner's Sons, Charles	5	
Sedalia (Mo.) Public Library		4
Shackleford, D. W.	13	
Sidney, University of	2	
Single Tax Information Bureau	1	
Smithsonian Institution	4	20
South Carolina, Board of Health		3
South Carolina, Comptroller General		3
South Carolina, Education Department		1
South Carolina, Railroad Commissioner		3
South Carolina, Secretary of State		1
South Carolina, Treasury Department		2
South Dakota, Auditor	3	
South Dakota, Insurance Commissioner	2	4
South Dakota, Mine Inspector		1
South Dakota, Secretary of State		1
South Dakota, Superintendent of Public Instruction	4	
Stephens, E. W.		514
Stockholme (Sweden) Observatorium	7	2
Stone Cutters Journal		7
Stove Mounters' International Union		5
Strasburg (Germany) Universitäts und Bibliothek		24
Tacubaya (Mexico) Observatorio Nacional	1	1
Tennessee, Comptroller Treasury	3	1
Tennessee, Labor Commission		2
Tennessee, Secretary of State		1
Texas, Agriculture and Insurance Department		4
Texas, Education Department	1	1
Texas, Health Department		1
Texas, Railroad Commission		1
Texas, Secretary of State		3
Texas, Treasury Department		2
Texas, University of		2
Tokyo (Japan) College of Medicine Imperial University		1
Tokyo (Japan) Observatory		2
Toronto, University		4
Toulouse (France) Université	2	
Trenholme, N. M.	1	
United Brotherhood of Carpenters and Joiners		4

	BOOKS	PAMPHLETS
Union Club	1	
U. S. Bureau of Education	2	1
U. S. Bureau of Rolls and Libraries	5	2
U. S. Bureau of Statistics	5	25
U. S. Civil Service Commission	1	
U. S. Coast and Geodetic Survey		5
U. S. Department of Agriculture	1	
U. S. Department of Commerce and Labor	1	
U. S. Fish Commission	3	1
U. S. Geological Survey		3
U. S. Interstate Commerce Commission	1	
U. S. Library of Congress	6	9
U. S. Life Saving Service	1	
U. S. Superintendent of Documents	267	232
U. S. Surgeon-General	2	14
U. S. War Department	12	4
Urban, Ignatius	3	
Utah, Auditor		1
Utah, Superintendent of Public Instruction	1	
Vermont, Department of Education	12	13
Vermont, Insurance Department	16	
Vermont, Secretary of State		1
Vest, G. G.	5	
Victoria Royal Society		1
Virginia, Secretary of Commonwealth		1
Washington University		1
Washington (State) Auditor	1	
Washington (State) Insurance Commissioner		2
Washington (State) Labor Commissioner	1	
Washington (State) Library		1
Washington (State) Secretary of State	2	
Washington (State) Superintendent of Public Instruction		1
West Virginia, Auditor	1	
West Virginia, Mine Inspectors		8
West Virginia, Secretary of State		1
West Virginia, Superintendent of Free Schools	1	
Wilmington Free Institute Library		1
Wisconsin, Academy of Sciences, Arts and Letters	2	
Wisconsin, Board of Control	1	
Wisconsin, Board of Health	1	
Wisconsin, Geological and Natural History Survey	2	

	BOOKS	PAMPHLETS
Wisconsin, Insurance Commissioner	5	4
Wisconsin, Railroad Commissioner	1	1
Wisconsin, Secretary of State		2
Wisconsin, State Historical Society		1
Wisconsin, Treasury Department	1	
Wisconsin, University of		1
Würtzburg (Germany) Universitäts Bibliothek		37
Wyoming, Charities Board		9
Wyoming, Secretary of State		2
Wyoming, Treasurer		2
Yeater, Charles E.		3
Yerkes Observatory		1

XIII. UNIVERSITY OF MISSOURI.

REPORT OF THE SECRETARY.

To the President of the University of Missouri:

Sir:—I have the honor to submit herewith my annual report as Secretary of the University.

INCOME AND EXPENDITURES.

The income and expenditures of the University, on account of the departments at Columbia, including interest on endowments paid to the School of Mines, for the fiscal year ending December 31, 1903, have been as follows:

I. INCOME.

Six per cent interest on endowment of $122,000.		$ 7,320 00
Five per cent interest on endowment of $100,000..		5,000 00
Five per cent interest on A. & M. College endowment of $349,881.19		17,494 10
Five per cent interest on endowment of $13,000...		704 93
Five per cent interest on Rollins' Scholarship endowment of $6,000		300 00
Five per cent interest on endowment of $646,958.23		32,347 87
State appropriation for maintenance		154,078 62
Library and Incidental Fees:		
Academic	$2,270 00	
A. & M. College (including Engineering)	1,516 00	
College of Medicine	740 00	
College of Law	1,855 00	
Summer School	3,077 36	9,458 36
Club Houses		5,328 75
Laboratories (from deposits)		4,796 33
Miscellaneous		1,975 10
Morrill Fund		17,578 13
College Farm		3,459 09
Hospital (from patients)		2,919 12
Dairy Husbandry		1,216 72
Dairy and Veterinary Building		5,303 98

Medical Building	8,482 54
Girls' Dormitory	17,141 57
Building for Horticulture, Botany & Entomology.	12,694 57
Engineering Building	11,472 01
Contingent Fund	3,239 72
Libraries	7,495 69
Laboratories	3,476 19
Summer School	6,000 00
Electric Light Plant	1,525 25
Granitoid floors and finishing Academic Hall	447 03
World's Fair, St. Louis	1,864 91
Restoration and preservation of Museum specimens	90 44
Cold Storage for Hospital, Club House, etc.	3,500 00
Water Plant and Fire protection	8,000 00
Maintenance, Betterment and Equipment of Parker Memorial Hospital	3,691 43
Student Labor	2,280 83
Athletics and Sanitation	2,238 65
Improvement of Heat, Water, Light and Power Plant	2,287 33
Furnishing Read Hall, etc.	4,295 98
Read Hall (from students)	2,183 66
Benton Hall	535 17
Fellowships	1,415 00
Academic Department	800 21
Law Department	152 25
Department of Education	600 55
Medical Department	1,621 70
Department of Engineering	258 34
College of Agriculture and Experiment Station	5,428 06
Granitoid walks and grading	1,501 12
Publications and Advertising	2,614 31
Agricultural Experiment Station	22,268 67
Total	$408,884 28

II. EXPENDITURES.

A. & M. College	$ 6,209 73
Printing	4,382 48
Club Houses	2,955 30
Curators and Visitors	1,329 92
Express, Freight, Drayage and Telegrams	3,265 47

Fuel	11,860 57
Improvements and Repairs	17,346 27
Insurance	1,113 61
Morrill Fund	17,738 00
Salaries—University	118,164 03
Salaries—A. & M. College	5,288 95
Service and Wages	7,469 36
Stationery and Postage	3,718 90
Water, Gas and Electric Light	3,942 83
School of Mines	10,873 00
Rollins' Scholarships	300 00
College Farm	6,112 43
Dairy Husbandry	1,013 83
Dairy and Veterinary Building	3,242 02
Medical Building	4,773 36
Girls' Dormitory	12,105 26
Building for Horticulture, Entomology & Botany.	8,959 26
Engineering Building	9,488 53
Contingent Fund	3,930 32
Libraries	11,775 95
Laboratories	14,963 97
Summer School	9,929 89
Electric Light Plant	1,608 39
Granitoid floors and finishing Academic Hall, etc..	192 80
World's Fair, St. Louis	1,864 91
Restoration and preservation Museum specimens.	308 73
Cold Storage	2,450 00
Water Plant and Fire Protection	5,955 54
Maintenance, Betterment and Equipment of Parker Memorial Hospital	8,752 17
Student Labor	2,224 79
Law Library	4,279 14
Athletics and Sanitation	3,100 84
Improvement of Heat, Water, Light and Power Plant	2,630 63
Furnishing Read Hall and Maintenance	7,861 84
Repairing Benton Hall	2,383 76
Fellowships	660 00
Academic Department	1,889 00
Law Department	534 75
Department of Education	2,282 02
Medical Department	1,898 15
Department of Engineering	1,264 52
College of Agriculture and Experiment Station..	5,593 68
Granitoid walks and grading	4,782 36
Publications and Advertising	2,259 52

New Boilers	181 38
Experiment Station (State Appropriation)	1,017 68
Cadets	2,500 00
Agricultural Experiment Station	24,667 89
Total	$ 395,397 73

COLLATERAL INHERITANCE TAX.

Since the revenues of the University are largely dependent upon the income from the Collateral Inheritance Tax, it may be interesting to know what that Tax has yielded since the law went into effect on August 20, 1899. A statement of the amounts paid into the State Treasury, by months, is submitted, as follows:

		1900.	
January	$ 90 25	August	$ 5,149 87
June	435 41	September	24,864 40
July	58 66	October	21,371 73
September	613 70	November	8,669 10
October	2,629 43	December	13,297 90
December	68 00	1903	
1901.		January	11,206 58
January	548 15	February	9,008 88
March	1,683 76	March	9,783 09
April	88,508 12	April	8,775 43
May	12,567 29	May	13,374 88
June	10,383 12	June	17,257 73
July	36,929 42	July	6,495 83
August	15,492 50	August	21,101 73
September	7,744 57	September	11,620 51
October	21,679 97	October	21,246 11
November	13,419 78	November	6,677 21
December	4,328 81	December	6,016 05
1902.		1904	
January	9,621 00	January	15,564 95
February	28,280 40	February	6,790 23
March	19,687 47	March	8,151 87
April	22,990 60	April	24,633 69
May	14,356 21		
June	20,497 38	Total	$ 644,739 34
July	41,067 57		

Remembering that one-fifth of the income from this Tax is payable to the School of Mines, it will be noted that the total income to the departments at Columbia, if the same rate is maintained to the close of the biennial period, will fall far short of the amount of appropriations made from said fund by the Forty-First General Assembly. It is believed, however, that the income for the remaining months of the biennial period will be proportionately greater than it has been up to this time.

APPROPRIATIONS.

The following appropriations were made by the Forty-First General Assembly to the Departments at Columbia:

From the General Revenue Fund.

Maintenance	$ 148,700 00

From the Collateral Inheritance Tax Fund.

Maintenance (income of last biennial period)	$ 52,927 66
Maintenance (income of current biennial period)	53,622 34
Summer School	12,000 00
Payment of Claim of H. W. Kolkmeyer & Co., against the State University for sewerage work	850 20
Libraries	25,000 00
Law Library	5,000 00
Libraries of History, Economics, Public Law and Sociology	5,000 00
Laboratories	25,000 00
Athletics and Sanitation	7,500 00
Contingent Fund	5,000 00
Improvement of Heat, Water, Light and Power Plant	3,500 00

Maintenance, Betterment and Equipment of Parker Memorial Hospital	12,300 00	
Furnishing Read Hall and salaries of employees	8,000 00	
Repairing Benton Hall, with view to better sanitation	4 000 00	
Student Labor (not less than 15 cents per hour)	5,000 00	
Fellowships	4,000 00	
Academic Department	12,500 00	
Law Department	1,466 00	
Department of Education	7,500 00	
Medical Department	12,000 00	
Department of Engineering	14,300 00	
College of Agriculture and Experiment Station	47,600 00	
Granitoid walks and grading	8,000 00	
Publications and Advertising	5,000 00	
Gymnasium and Equipment	69,200 00	
Physics Building and Equipment.	75,000 00	
Veterinary Surgery and Animal Hospital and equipment	15,000 00	
Additions to Chemical Laboratory	25,000 00	
Chair of Homeopathy	3,000 00	$ 524,266 20
Total		$ 672,966 20

Respectfully submitted,

J. G. BABB,

Secretary of the University.

XIV. PUBLICATIONS AND COLLECTIONS.

From 1 June, 1903, to 1 June, 1904.

EDWARD A. ALLEN:

The "Dram of Eale" Crux in Hamlet. (*Journal of English and Germanic Philology*, Vol. V, No. 3.)

Review of Advanced English Grammar, by William T. Harris. (*School Review* for May, 1904.)

L. D. AMES:

On a Theorem of Analysis Situs Relating to the Division of the Plane or of Space by a closed Curve or Surface. (*Bulletin of the American Mathematical Society,* 2d Series, Vol. X., No. 6, pp. 301-305, March, 1904.)

HENRY M. BELDEN:

Donne's Compasses and Wither's Compass. (*Modern Language Notes,* Vol. XIX, pp. 76ff.)

ROBERT M. BIRD:

Further investigations on the two isomeric chlorides of orthosulphobenzoic acids, by Ira Remsen, R. M. Bird, W. B. Holmes, and others. (*American Chemical Journal,* Vol. 30 (1903), No. 4.)

A Volumetric Method for determining fat and water in butter, by R. M. Bird and C. H. Eckles. (*Report of Missouri Agricultural Experiment Station* for 1903.)

Water in butter:—A modification of the official gravimetric method. (Report of Missouri Agricultural Experiment Station for 1903.)

The determination of water in substances which are to be afterwards extracted with volatile solvents. (*Journal of American Chemical Society,* Vol. XXVI (1904), No. 7.)

WILLIAM G. BROWN:

Analysis of water from Hinton, West Virginia. (*Journal of the American Chemical Society,* Vol. XXV., p. 647.)

Industrial analyses of public waters from forty-five Missouri towns. William G. Brown and A. C. Lyon. (*Bulletin Missouri State Board of Health,* Vol. I. p. 63, April, 1904.)

WILLIAM J. CALVERT:

Record of Parasitic Infections in the Philippines. (*Boston Medical and Surgical Journal,* Vol. CXLIX, No. 18, October 29, 1903.)

Sources of Plague. (*Journal of the American Medical Association*; 54th Annual Session.)

Tropical Diseases. (*Reference Handbook of the Medical Sciences;* pp. 881-886.)

A case of Abdominal Aneurism. (*Interstate Medical Journal,* Vol. XI, No. 3, 1904.)

Icterus in Secondary Syphilis. (*American Journal of Medical Sciences,* Vol. CXXVIII, No. 5, p. 816, May, 1904.)

JOHN T. CLARK:

Les Explosives Sourdes entre Voyelles en Italien. (*Romania,* October, 1903.)

Etude Dialectale Italienne. (*Romania,* April, 1904.)

WINTERTON C. CURTIS:

Crossobothrium Laciniatum and Developmental Stimuli in the Cestoda. (*Biological Bulletin,* July, 1903.)

FRANCIS DANIELS:

The Kent County, Michigan, Upland Plant Societies. (*Science,* August 14, 1903.)

C. H. ECKLES:

Tests of Certain Gravity Separators.

An Error in Cream Bottles used in the Babcock Method.

A Volumetric Method for the Determination of Fat and Water in Butter, with R. M. Bird. (All in *Report of Missouri Agricultural Experiment Station,* 1903.)

W. B. ELKIN:

Hume: The Relation of the "Treatise of Human Nature" to the "Inquiry Concerning Human Understanding." (*New York. The Macmillan Company,* 1904.)

CHARLES A. ELLWOOD:

Review of Rhys-Davids' "Buddhist India." (*Annals of the American Academy of Social and Political Science,* September, 1903.)

Public Relief and Private Charity in England. (*The University of Missouri Studies,* Vol. II., No. 2, pp. 96.)

Preface to W. W. Elwang's Master's Dissertation on "The Negroes of Columbia, Missouri." (*Published by the University,* April, 1904.)

A Bulletin on the Condition of the County Almshouses of Missouri. (*Published by the University,* May, 1904.)

A Bulletin on the Condition of the County Jails of Missouri. (*Published by the University,* May, 1904.)

ELMO G. HARRIS:

Theory of Centrifugal Pumps and Fans: Analysis of their Action with Suggestions for Design. (*Transactions American Society of Civil Engineers,* Vol. LI, p. 166, 1903.)

EARLE R. HEDRICK:

On the Relation between Mathematical Research and Secondary Instruction. (*Proceedings of the Michigan Schoolmasters' Club* for 1903, pp. 18-30.)

Note on the Existence of a Continuous First Derivative. (*Read, Summer Meeting, American Mathematical Society, Boston,* August 31, 1903. Published (in abstract) *Bulletin American Mathematical Society,* Vol. X, pp. 60-61, November, 1903.)

The Law of the Mean for Functions of several Variables. (*Read, Winter Meeting, Chicago Section, American Mathematical Society,* St. Louis, December 31, 1903. Published (in abstract) *Bulletin American Mathematical Society,* Vol. X, p. 331, April, 1904.)

A Class of Pseudo-Contact Transformations. (*Read, Winter Meeting, Chicago Section, American Mathematical Society,* St. Louis, December 31, 1903. Published (in abstract) *Bulletin American Mathematical Society,* Vol. X, pp. 332-3, April, 1904.)

Thirty large and fifteen small models made at the University.

WALTER L. HOWARD:

Peach Growing in Missouri. (*Reprint from Thirty-fourth Annual Report, Missouri State Board of Agriculture.*)

Crown Gall of the Apple. (Results of Numerous Experiments by the Author.) (*Forty-sixth Annual Report Missouri State Horticultural Society.*)

Strawberry Growing. (*Thirty-fifth Annual Report Missouri State Board of Agriculture.*)

RICHARD H. JESSE:

The most effective method of chapel worship and the expediency of appointing a Professor with such a staff of Assistants as he may need to conduct this service and have charge of the religious life of the institution. (*Transactions of the Religious Education Association,* 1904.)

GEORGE E. LADD:

Mineral Resources of Missouri. (Published in "*Missouri*" World's Fair Book, 1904.)

JOHN D. LAWSON:

Contracts. (*Cyclopedia of Law and Procedure,* Vol. IX, p. 574.)

GEORGE LEFEVRE:

The Fauna and Fisheries of Missouri. (Published in "*Missouri,*" issued by the Missouri Commission of the Louisiana Purchase Exposition.)

MARY ELIZABETH LEWIS:

The Fairy Elements in Chaucer's Dream. (*Proceedings of the Eleventh, Twelfth and Thirteenth Annual Meetings of the Modern Language Association of Ohio,* 1903, p. 126.)

ISIDOR LOEB:

How the Commonwealth is Governed. (In "*Missouri,*" published by the Missouri Commission of the Louisiana Purchase Exposition, 1904.)

Organization and Jurisdiction of Courts. (In *Review of Legislation,* 1903, New York State Library, Albany, 1904.)

MAX MEYER:

Some Points of Difference concerning the Theory of Music. (*Psychological Review,* 10, 1903.)

Ueber Kombinations-und Asymmetrietöne. (*Annalen der Physik* (Vierte Folge), 12, 1903.)

Zur Theorie Japanischer Musik. (*Zeitschrift für Psychologie und Physiologie der Sinnesorgane,* 33, 1903.)

Experimental Studies in the Psychology of Music. (*American Journal of Psychology,* 14, (*Commemorative Number*), 1903.)

On the Attributes of the Sensations. (*Psychological Review,* 11, 1904.)

R. B. MOORE:

A Laboratory Chemistry. (*J. B. Lippincott Company, Philadelphia,* 1904.)

The Scientific Method and Religion. (*Christian Century, Chicago,* March 3, 1904.)

F. B. MUMFORD:

Elementary Agriculture—The Principles of Plant Production. (*A text for the National Grange Bulletin.*)

The Live Stock of Missouri. (Written for the World's Fair book, "*Missouri,*" published by the Missouri Commission.)

MAX W. MYER:

Etiology and Pathology of Puerperal Eclampsia. (*Interstate Medical Journal,* June, 1903.)

A Case of Inversio Uteri Puerperalis Reduced by a Modified Kuestner's Method. (*American Gynaecology,* Vol. III., No. 5, November, 1903.)

ROBERT M. OGDEN:

Untersuchungen über den Einfluss der Geschwindigkeit des lauten Lesens auf das Erlernen und Behalten von sinnlosen und sinnvollen Stoffen. (*Archiv für die gesamte Psychologie,* Vol. II., No. 2-3, p. 92ff, 1903.)

Memory and the Economy of Learning. (*The Psychological Bulletin,* May, 1904.)

HOWARD S. REED:

Methods in Plant Physiology. XII., XIII., XIV., XV., XVI. (*Journal of Applied Microscopy and Laboratory Methods,* Vol. VI., pp. 2386, 2428, 2464, 2515, 2569. June to October, 1903.)

The Planting and Care of Shade Trees. (*Forty-sixth Report State Horticultural Society of Missouri.*) (Reprinted as a Circular of Information from the Agricultural College of the University of Missouri.)

A Study of the Enzyme-Secreting Cells of Zea Mais and Phoenix dactylifera. (*Annals of Botany,* Vol. XVIII., p. 269, April, 1904.)

HERMAN SCHLUNDT:

The Dielectric Constants of Some Inorganic Solvents. (*Journal Phys. Chem.* 8, 122, February, 1904.)

PAUL SCHWEITZER:

Investigation of bodies called Fibre and Carbohydrates in feeding-stuffs, with a tentative determination of the components of each. (*Journal of the American Chemical Society,* March, 1904.)

Advice to Farmers. (*Agricultural Experiment Station Bulletin,* No. 63, February, 1904.)

F. H. SEARES:

Observations of Comets. (*Laws Observatory Bulletin* No. 2, May, 1904.)

Two hundred and twenty books and pamphlets collected for the Laws Observatory.

H. B. SHAW:

Notes on Electrical Machinery. (*Herald Print,* Columbia, Missouri, 1903.)

J. M. STEDMAN:

The More Important Insects Injurious to Horticulture During the Summer of 1903. (*Annual Report of the Missouri State Horticultural Society,* 1903.)

The Hessian Fly in Missouri, Cecidomyia destructor, Say. (*Agricultural Experiment Station Bulletin,* No. 62.)

The Strawberry False-Worm, Harpiphorus maculatus, Nort. (*Agricultural Experiment Station Bulletin,* No. 54.)

The Strawberry Leaf-Roller, Phoxopteris comptana, Frohl. (*Agricultural Experiment Station Bulletin,* No. 54.)

The Wheat Bulb-Worm, Meromyza americana, Fitch. (*The Twentieth Century Farmer,* No. 125.)

The Dust Spray Process. (*The Country Gentleman,* No 2637.)

The Canker Worm. (*Western Fruit Grower,* Vol. 15, No. 3.)

Between three and four thousand insects have been collected and added to the Department museum during the past year, together with several hundred sets showing the complete life histories of Missouri insects.

CAROLINE T. STEWART:

Grammatical Treatise on the Alemannic Psalms. (*Beiträge zur Kunde der indogermanischen Sprachen. Bezzenberger,* Göttingen, Germany, 1904.)

OSCAR M. STEWART:

On the Conductivity produced in Rarified Gases by an incandescent Kathode. (Joint article with Ernest Merritt.) (*Physical Review,* Vol. XVIII, p. 239. 1904.)

EDGAR H. STURTEVANT:

Latin s (s) from rss. (*Classical Review,* p. 159, April, 1904.)

FRANK THILLY:

The Theory of Induction. (*Philosophical Review,* July, 1903.)

The Process of Inductive Inference. (*University of Missouri Studies,* Vol. II, No. 3, April, 1904.)

Victor Basch's La Poetique de Schiller. (*Philosophical Review,* May, 1904.)

Armstrong's Transitional Eras. (*Journal of Philosophy, Psychology, and Scientific Methods.* May, 1904.)

Marvin's Introduction to Systematic Philosophy. (*Philosophical Review,* November, 1903.)

N. M. TRENHOLME:

The Borough of Evesham. (*Victoria County History, Worcestershire,* Vol. II., London, 1904.)

Documents Illustrative of English Constitutional and Legal History, 1154-1215. (*Herald Press,* Columbia, Missouri, 1904.)

GEORGE M. TUCKER:

Alfalfa Culture in Missouri. (*Published in December Bulletin,* 1903. State Board of Agriculture.)

RAYMOND WEEKS:

Correspondence. (*Modern Language Notes,* June, 1903.)

The Texts most Used in the Teaching of Old French. (*Publications of the Modern Language Association,* Vol. XVIII. 1903.)

Report as Secretary of the Central Division of the Modern Language Association. (*Publications of the Society,* Vol. XVIII, 1903.)

Review: Scripture, Edward W., The Elements of Experimental Phonetics. (*Modern Language Notes,* January, 1904.)

A Newly-Discovered MS. of Aliscans. (*Modern Language Notes,* January, 1904.)

An International Language. (*Le Maitre Phonétique, Février-Mars,* 1904.)

J. C. WHITTEN:

Apple Growing in Missouri. (*Experiment Station Bulletin* No. 61.)

Recent Advancement in Missouri Horticulture. (*The Western Fruit Grower,* January, 1904.)